



Army Modularity and the Future Engineer Force

**Overview for:
USMC Engineer Master
Planning Conference
22 February 2005**



The Strategic Context

- We are a nation at war
- This is a prolonged period of conflict for the US with great uncertainty about the nature and location of that conflict
- We must be able to defuse crises and/or defeat aggression early to prevent escalation, limit damage
- Thus, we need flexible, rapidly deployable forces and sufficient depth and strength to sustain multiple, simultaneous operations



***We have over 350,000
SOLDIERS overseas in 120
countries***

***Combatant Commanders need versatile, potent land
power***

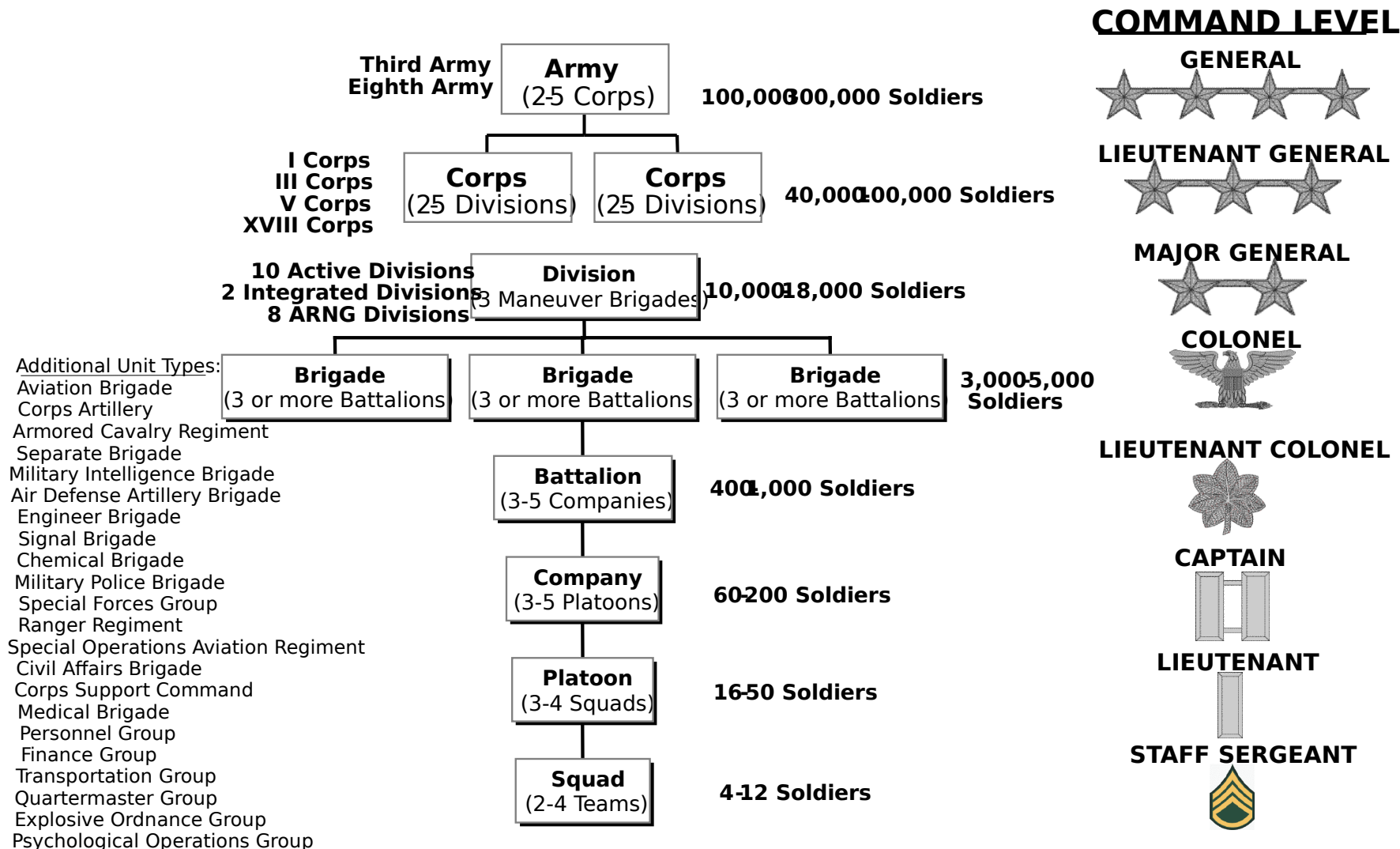


Challenges for the Current Force

- War is the norm, peace is the exception
- Our adversaries seek adaptive advantage through asymmetry
- We have near peer competitors in niche areas
- Conventional Force on Force conflicts are still possible
- There is an enormous pool of potential combatants armed with irreconcilable ideas
- Our homeland is part of the battlespace
- We are adapting to these challenges NOW




The Army Today



What the Current Force Looks Like

The Army Division = traditional building block

But...  = ~15,000 Soldiers & Equipment

- Optimized for major land campaigns against similarly organized forces (typically over 20,000 when deployed)
- Large, fixed organizations with interconnected parts
- Requires extensive reorganization to create force packages
- Limits Regional Combatant Commander's ability to mix and match packaged capabilities for m

We're good, but we can be better...

- Limited Joint capabilities



Projecting the Army Worldwide



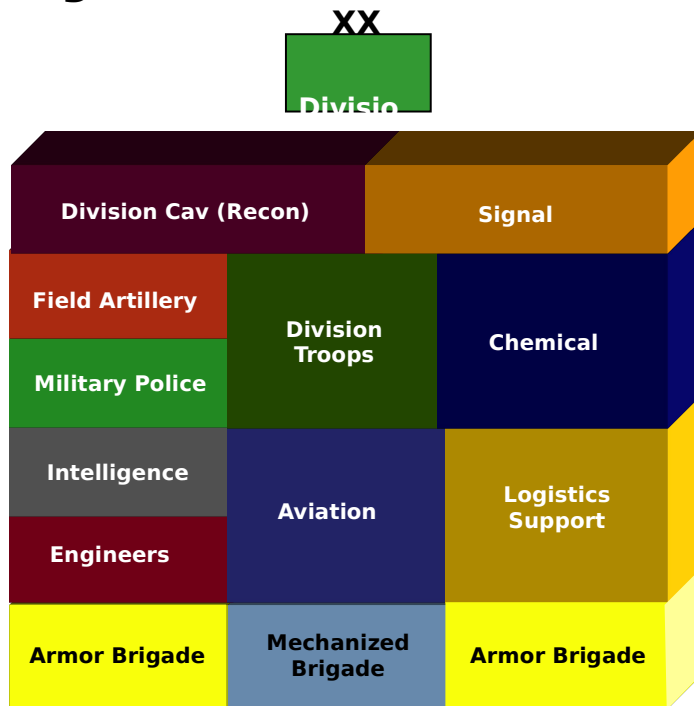
- Units not tied to division base.
- Simultaneous deployment from multiple power projection platforms.

- Basing supports a campaign quality Army with joint and expeditionary capabilities.
- Power projection platforms provide full range of support for responsive deployment, employment and sustainment of forces.

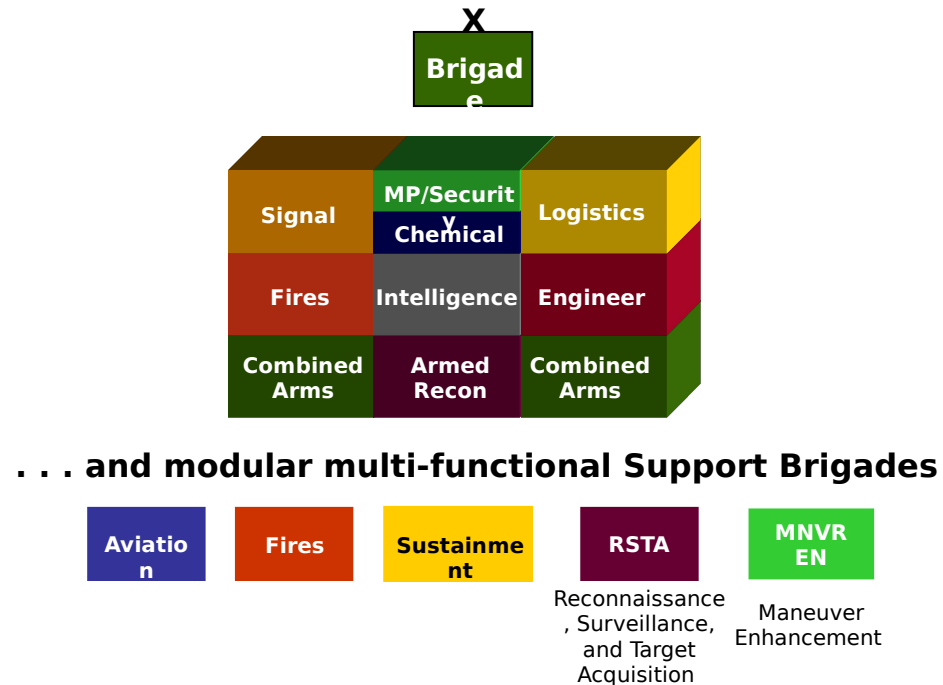


From Division to Brigade - Centric

FROM: An Army based around large, powerful, fixed organizations



TO: An Army designed around smaller, more self-contained organizations



A More Ready and Relevant Force

With Brigades as Building Blocks

(Less than 4,000 Soldiers in each Brigade)

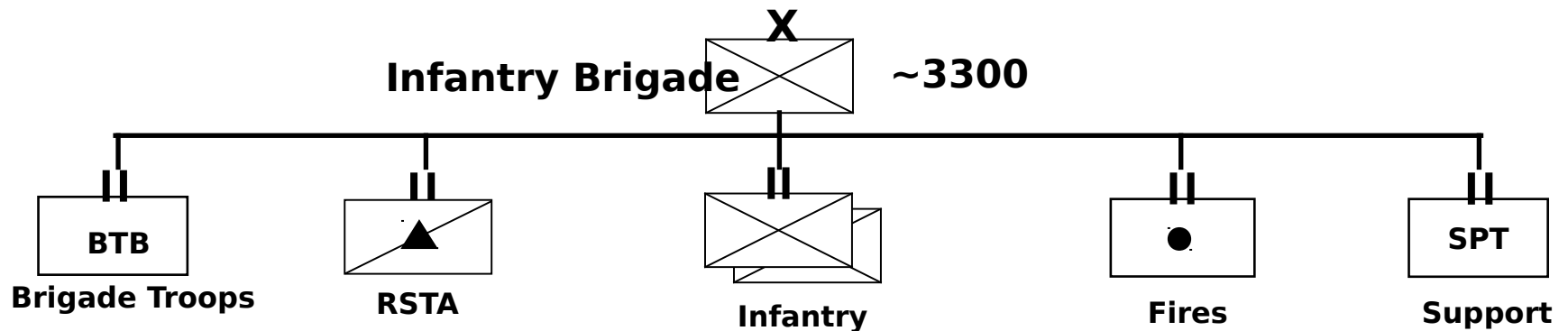
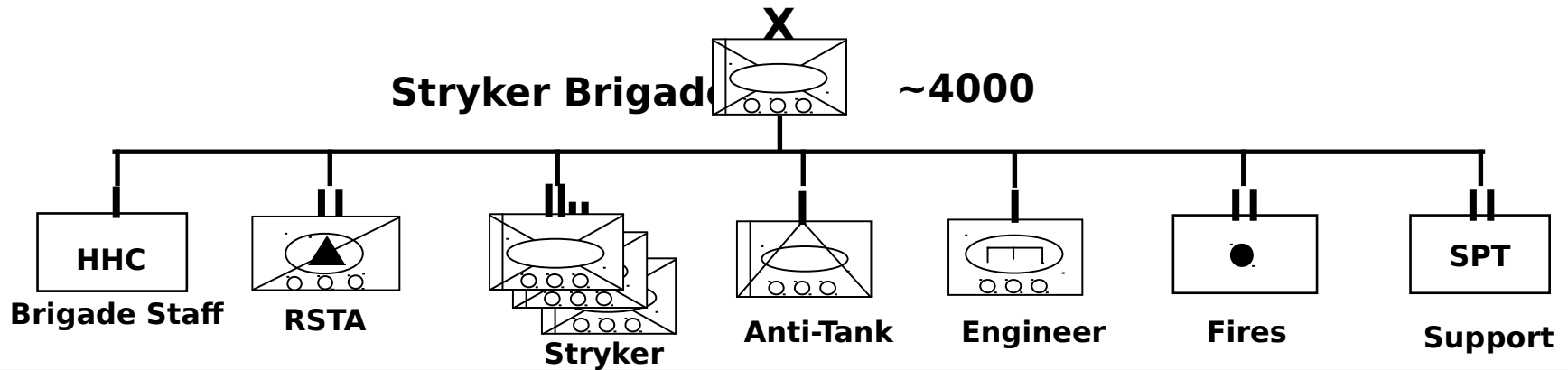
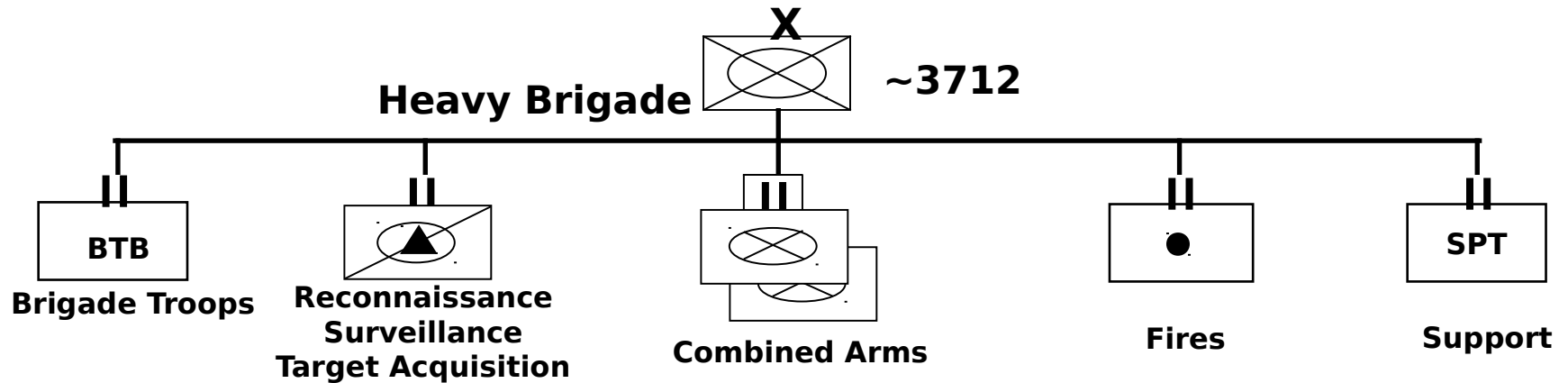


Standard maneuver brigades with organic combined arms capabilities



Supporting brigades with standard headquarters, but variable subordinate units

Brigade Combat Teams



Employing the Army in the Joint F

Units Available

+

**Headquarter(s) &
Command Posts**

A Commander



Heavy



Infantry



RSTA



Fires



Aviation



Sustainment



**Maneuver
Enhancement**



Spec Op Forces



Multi-national



**Joint/Other
Assets**

UEy

UEx

4★/3★/2★/1★/🦅

**Tailored Land Forces
for Regional
Combatant
Commanders**

Levels of Command

• Joint - Campaign Level

- Integrates the military instrument with other instruments of national power.
- Integrates all elements of the joint force.

Current

JFC

XXXX
ASCC

Transformed

UE_y

Theater-wide
Support
JFLCC for MCO

• Operational - Major Land Operations

- Plan and execute major land operations.
- Orchestrates Joint, Interagency & MN operations.
- Execute Administrative Control (ADCON) and Army Support to Other Services (ASOS).

JFLCC

XXX
CORPS

UE_x

Warfighting

• Tactical - Battles

- Puts together complementary and reinforcing capabilities with engagements to achieve military conditions within a specified Area of Operations (AO).

XX
DIV

X
BDE

All types of maneuver and non-maneuver UAs

MAN

BFSB

FIRES

AVN

SUST

ME

• Tactical - Engagements

- Close Combat.
- Generates specific effects / outcomes within the AO.





The Army Campaign Plan



	FY04	FY05	FY06	DP	FY07	FY08	FY09	FY10
AC UEx								
AC BCTs								
ARNG UEx								
ARNG BCTs								
RESERVE		USAR Restructure 1st AREP → 2d and 3d AREPs → 4th and 5th Army Reserve Expeditionary Package (AREP)						
STRYKER	SBCT2	SBCT3	SBCT4		SBCT5	SBCT6		

Applying Lessons Learned from Stryker and OIF

USAR Restructure

1st AREP

2d and 3d AREPs

4th and 5th Army Reserve Expeditionary Package (AREP)

Regional Readiness Commands Redesign

DP Decision point for an additional 5 AC Modular Brigade Combat Teams

Army Maneuver Brigades 2003			
	AC	ARNG	Total
Airborne	4	0	4
Infantry	10	15	25
Stryker	2	0	2
Heavy	17	23	40
Total	33	38*	71



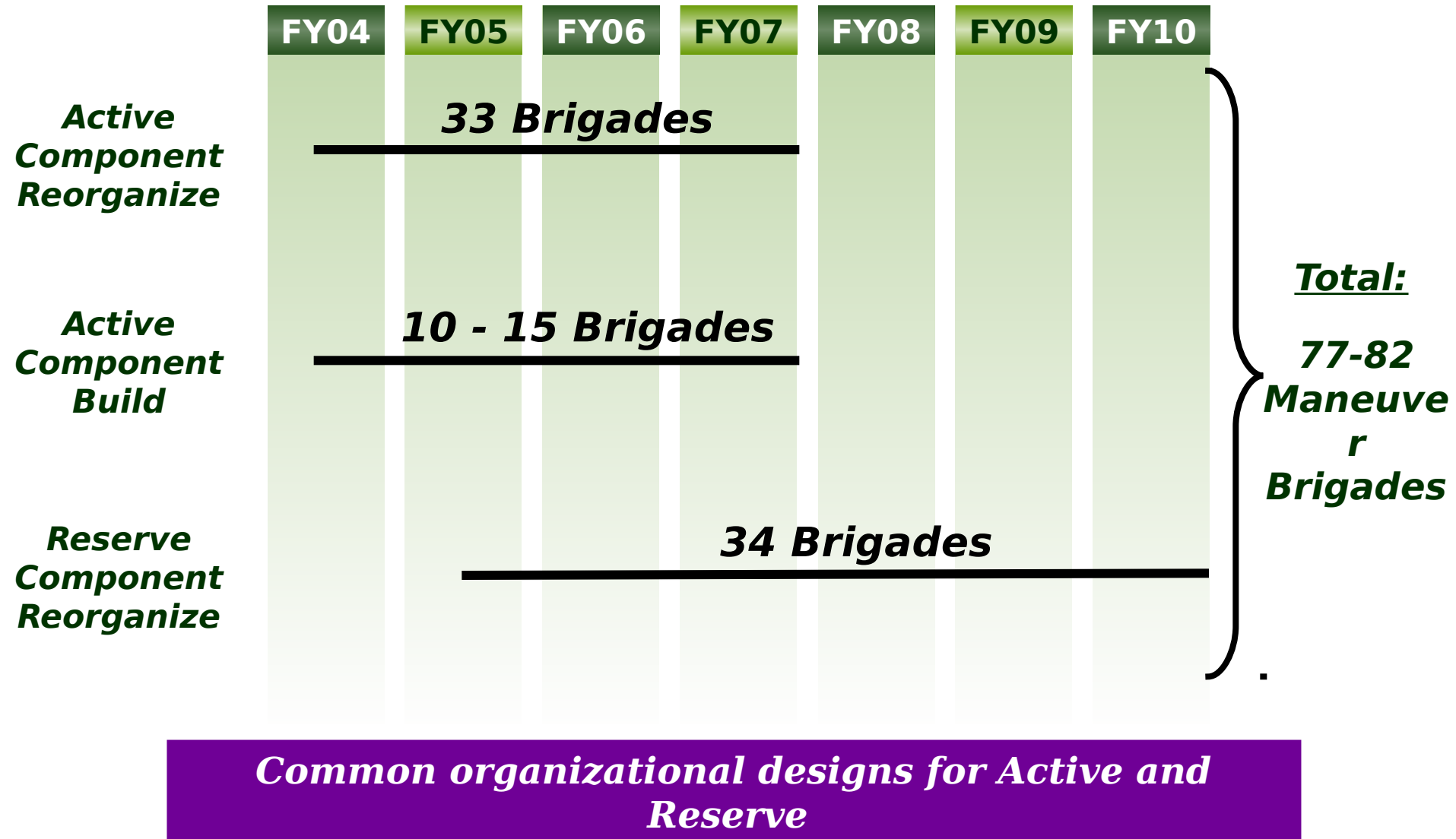
Army Maneuver Brigades 2010			
	AC	ARNG	Total
Airborne	6	0	6
Infantry	12-17	23	35-40
Stryker	5	1	6
Heavy	20	10	30
Total	43-48	34	77-82

- Increased Joint Combat Capability
- Globally Managed Deployments
- Improved Versatility

- Modular AC/RC Design
- Increased Readiness
- Increases Stability



We are Converting the Army Now





Ready Forces: AC/ARNG/USAR

“Our Army at War—Relevant and Ready”

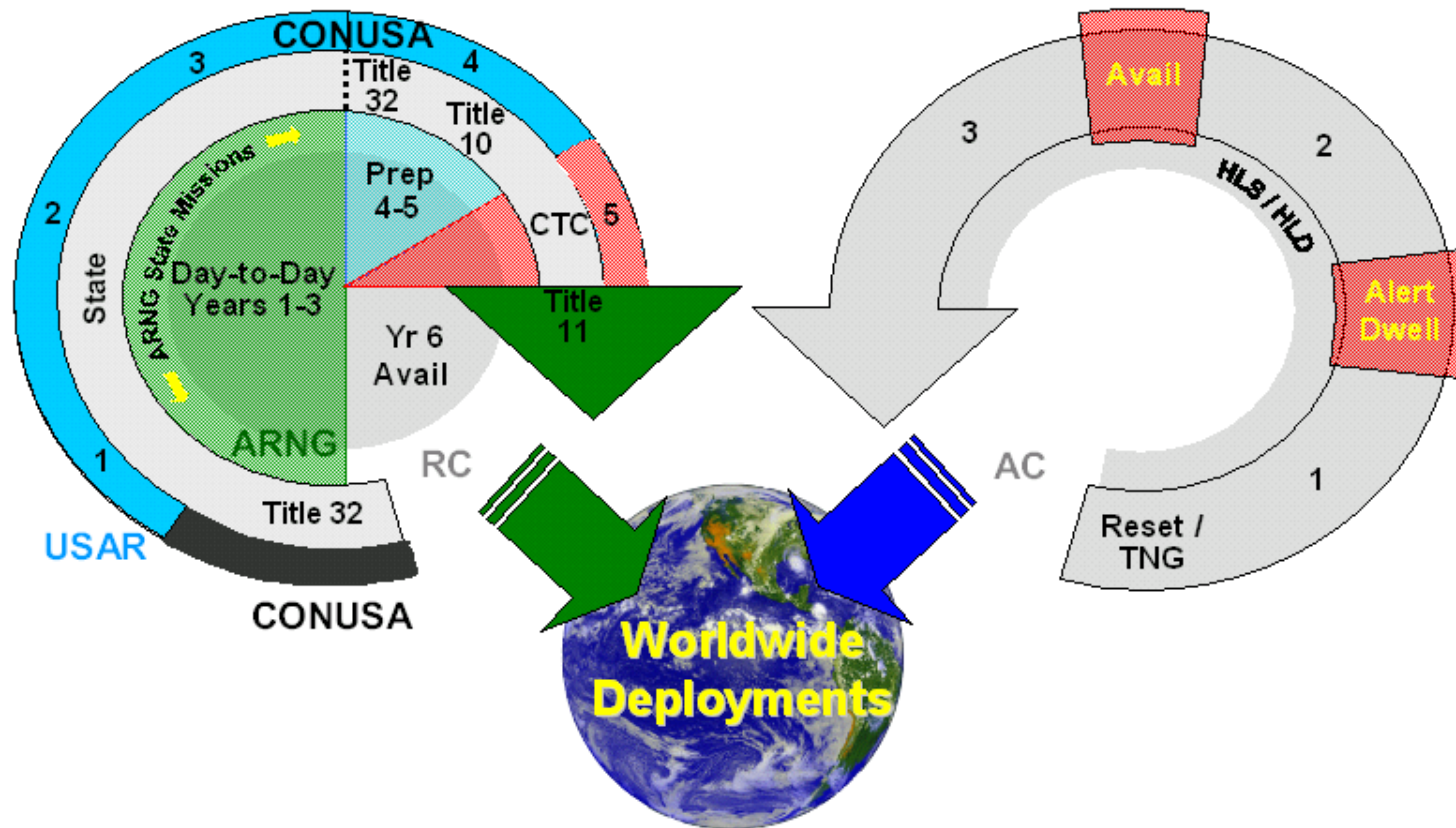
Reserve Component (ARNG & RC)

BCT(UAs) 6 year cycle (1 year in 6)

AREP 6 year cycle (1 year in 6)

Active Component

3 year cycle (1 year in 3)



- Manage readiness and availability of forces.
- Maneuver resources based on rotation sequences. Rotate idle equipment to needed locations to maximize employment and readiness.





What Isn't Changing

The Soldier is the Centerpiece of All Our Units

- ✓ Everything we do is designed to support the Soldier
- ✓ A heritage of fighting and winning our Nation's Wars
- ✓ Traditions reflected in our unit's lineage and honors



Soldier's Creed

I am an American Soldier.

I am a Warrior and a member of a team. I serve the people of the United States and live the Army Values.

I will always place the mission first.

I will never accept defeat.

WARRIOR ETHOS

I will never quit.

I will never leave a fallen comrade.

I am disciplined, physically and mentally tough, trained and proficient in my warrior tasks and drills. I always maintain my arms, my equipment and myself.

I am an expert and I am a professional.

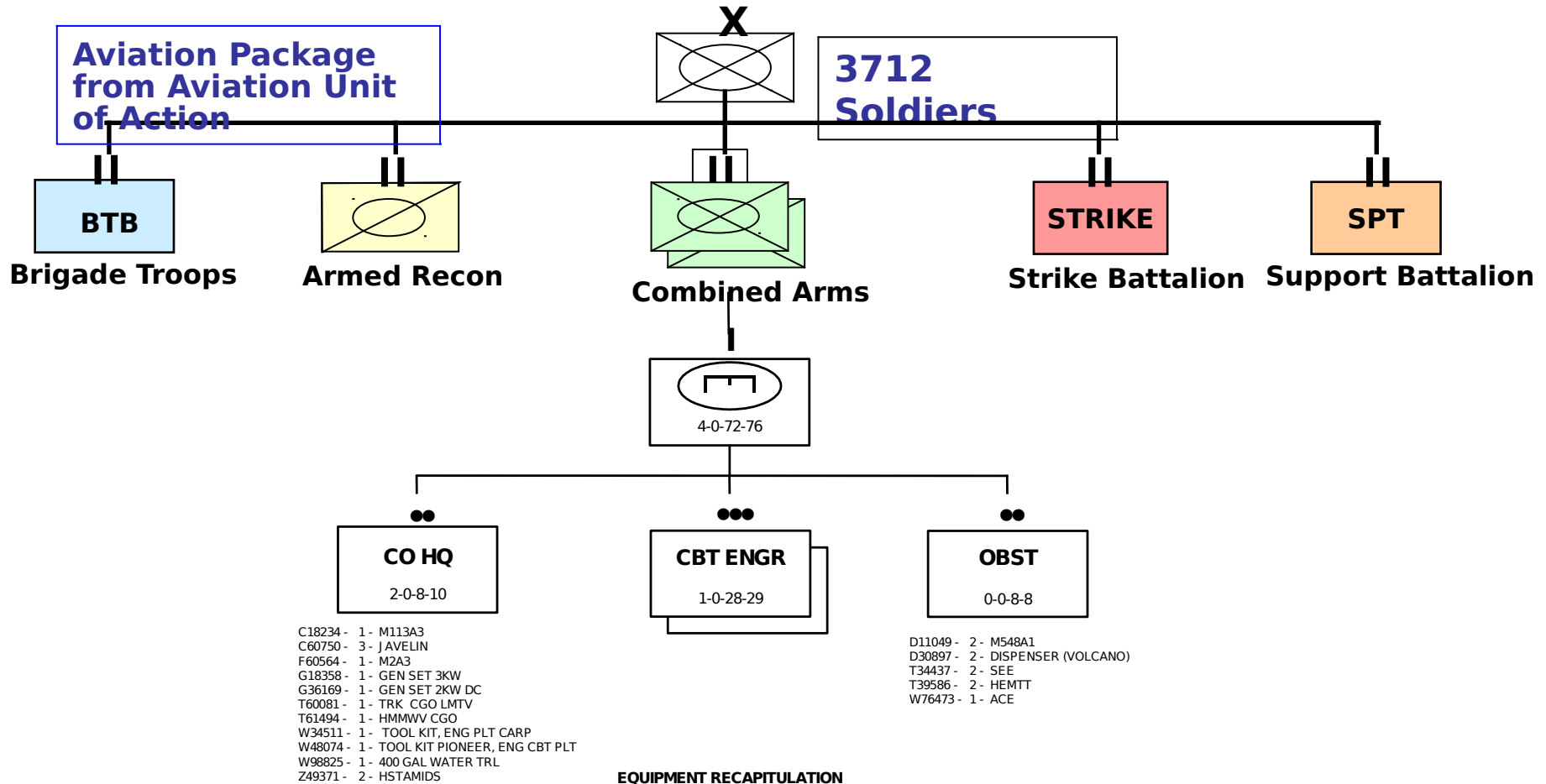
I stand ready to deploy, engage, and destroy the enemies of the United States of America in close combat.

I am a guardian of freedom and the American way of life.

I am an American Soldier.

Modular Force Designs

Heavy Brigade Combat Team

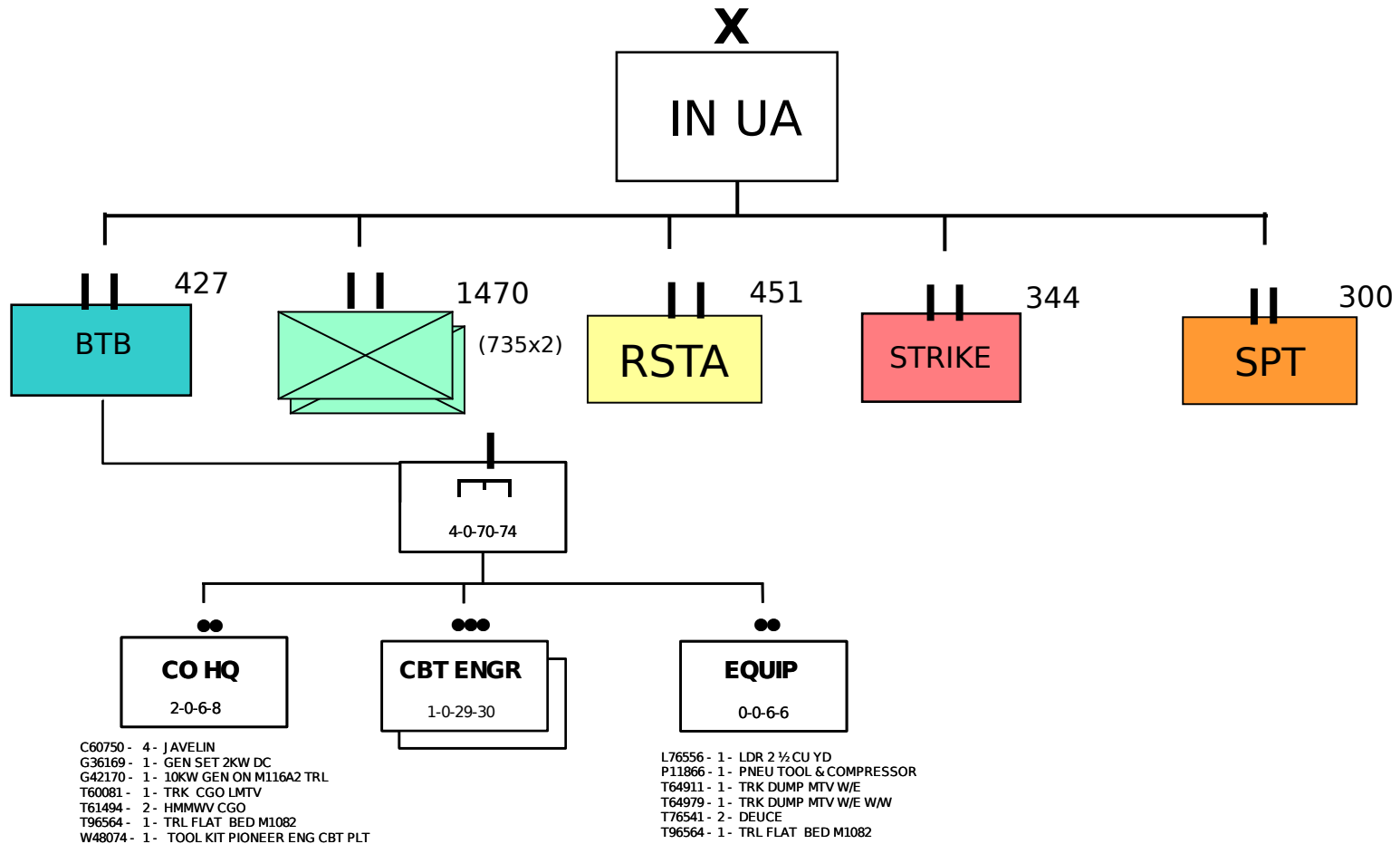


EQUIPMENT RECAPITULATION

C18234 - 1 - M113A3	T39586 - 2 - HEMTT
C60750 - 3 - JAVELIN	T60081 - 1 - TRK CGO
D11049 - 2 - M548A1	T61494 - 3 - HMMWV
D30897 - 2 - DISPENSER (VOLCANO)	W34511 - 1 - TOOL KIT, ENG PLT CARP
T63238 - 2 - SKETCH SET SURVEYING	W34648 - 6 - TOOL KIT, ENG SQ W/CHEST
F60564 - 9 - M2A3* (BASE IS M113A3)	W48074 - 1 - TOOL KIT PIONEER, ENG CBT PLT
F91490 - 6 - DEMO SET EXPLOSIVE	W48348 - 6 - TOOL KIT PIONEER, ENG SQ
G18358 - 1 - 3KW GEN	W76473 - 3 - ACE* (BASE IS DOZER)
G36169 - 1 - 2KW DC GEN	W95811 - 6 - TRL CGO 1½T
S93791 - 2 - SOF DEMO KIT	W98825 - 1 - 400 GAL WATER TRL
T34437 - 2 - SEE	Z49371 - 18 - HSTAMIDS (BASE IS PSS-11/12)

* - BASE STRUCTURE ADDS THREE PEOPLE - (2ND OPERATOR FOR DOZER/DRIVER FOR TRACTOR/TRAILER)

Infantry Brigade Combat Team



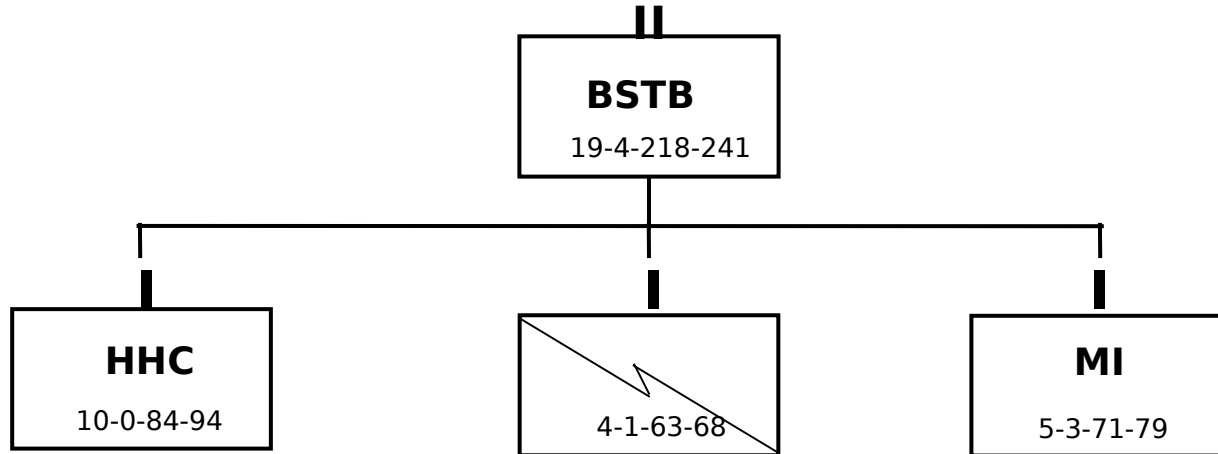
EQUIPMENT RECAPITULATION

C60750 - 4 - JAVELIN
 D03932 - 12 - HSTAMIDS
 F91490 - 6 - DEMO SET EXPLOSIVE
 G36169 - 1 - GEN SET 2KW DC
 G42170 - 1 - 10KW GEN ON M116A2 TRL
 L76556 - 1 - LDR 2 ½ CU YD
 P11866 - 1 - PNEU TOOL & COMPRESSOR
 S93791 - 2 - SOF DEMO KIT
 T34437 - 4 - SEE
 T60081 - 1 - TRK CGO LMTV
 T61494 - 4 - HMMWV CGO

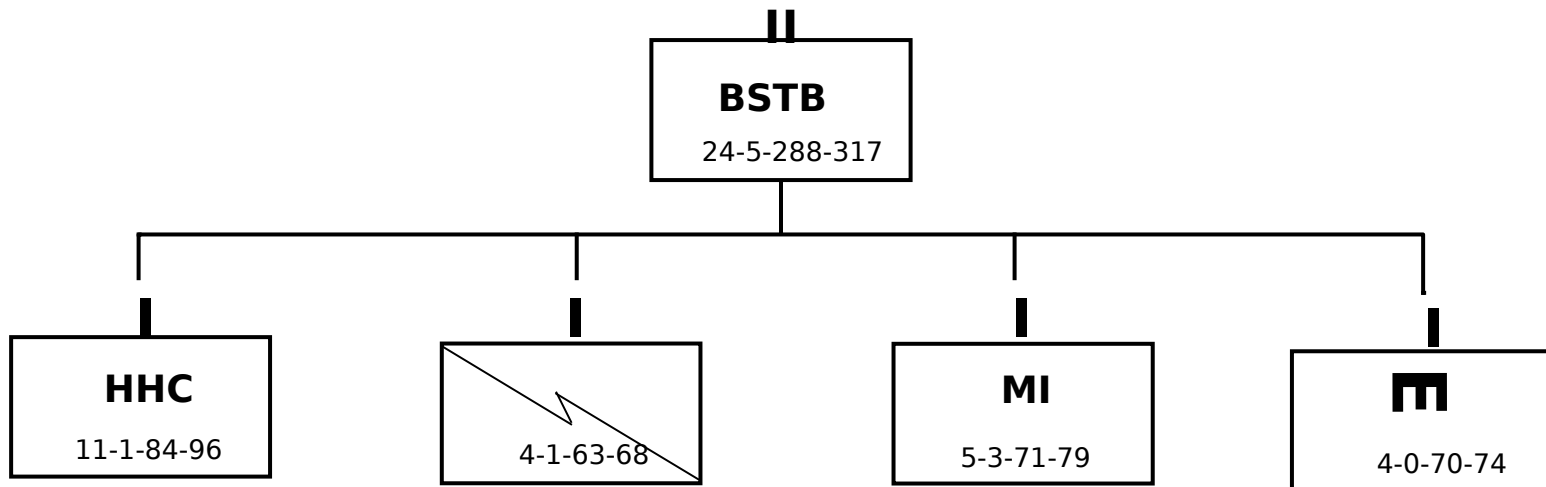
T61562 - 8 - HMMWV CGO W/W
 T63238 - 2 - SKETCH SET SURVEYING
 T64911 - 1 - TRK DUMP MTV W/E
 T64979 - 1 - TRK DUMP MTV W/E W/W
 T76541 - 2 - DEUCE
 T95992 - 8 - TRL CGO HI MOB ¾ T
 T96564 - 1 - TRL FLT BED M1082 LMTV
 W34511 - 2 - TOOL KIT CARP ENG PLT
 W34648 - 6 - TOOL KIT CARP ENG SQ
 W48074 - 1 - TOOL KIT PIONEER ENG CBT PLT
 W48348 - 6 - TOOL KIT PIONEER ENG SQ

BRIGADE SPECIAL TROOPS BATTALION

BSTB Heavy BCT



BSTB Infantry BCT

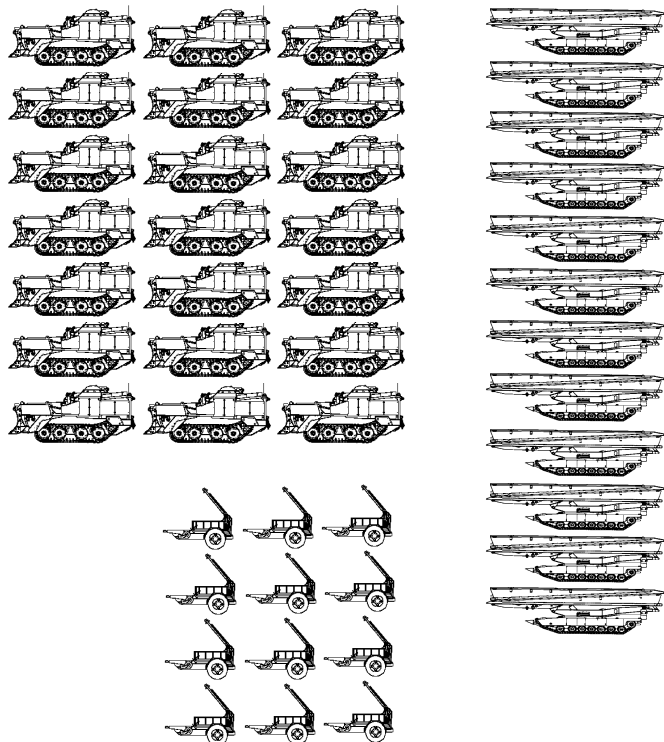


Significant Loss of Capability inside the Modular Army BCT

Current Force

1 Bn (3 Co's) of Sappers : 415 Soldiers

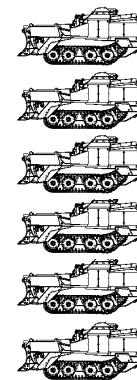
Support 9 Maneuver Companies



Future Force

2 Co's of Sappers : 152 Soldiers

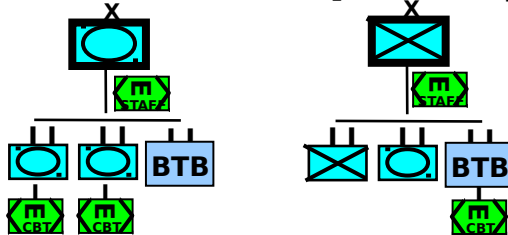
Support 11 Maneuver Companies



Expeditionary Engineer Force Design...

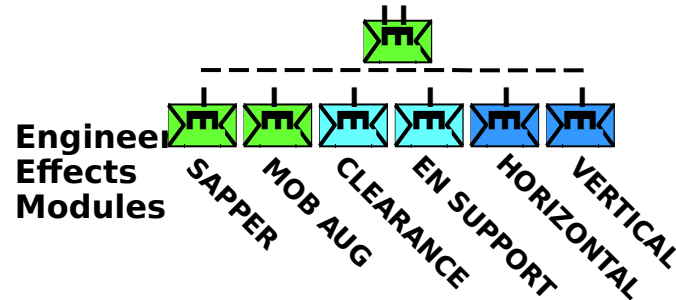
...Layered Capability Framework

Embedded Capability



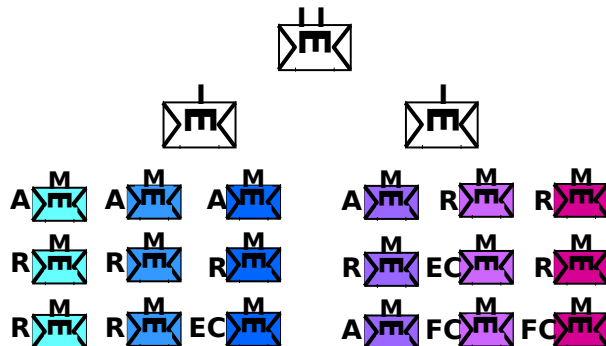
- Engineer units that are organic to a Brigade Combat Teams
- Provides minimum level of most critical / most frequently required engineer capabilities
- Must have augmentation for full spectrum operations

Baseline Forces



- Combines engineer C² with a baseline of engineer capabilities to augment BCT shortfalls and support other UEx requirements
- Receives -- and depends upon -- modules from force pool for mission specific capabilities

Mission Module Forces



- Primarily provides engineer effects modules required to respond to specific missions
- Organization is modular from squad to company
 - Maximum commonality of design
 - Fixed organizations with discrete sets of capabilities
 - Scalable robustness

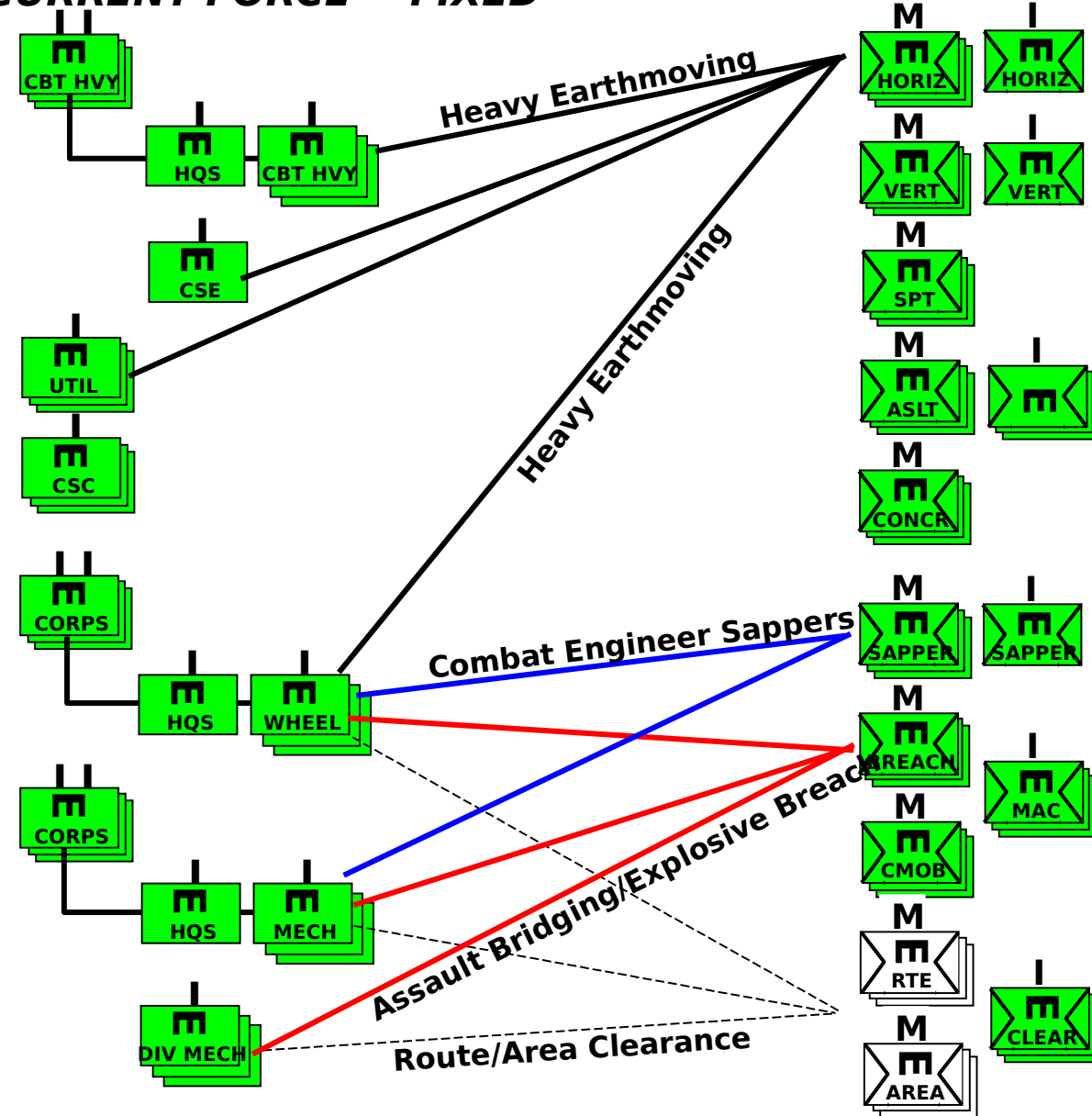
A - Active EEM
 R - NG/USAR EEM
 EC - Equip Contract EEM
 FC - Full Contract EEM

Mix of A / R / EC / FC depends on:

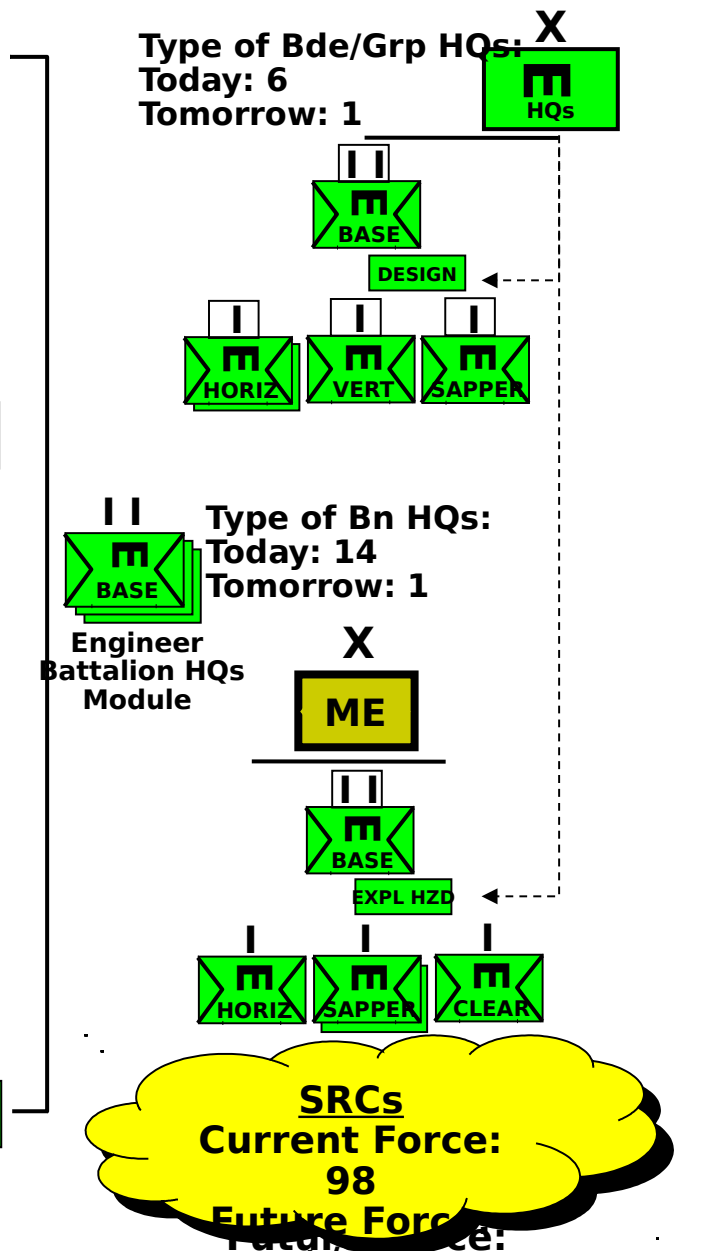
- Frequency required
- Integration required with other forces
- Where it occurs on battlefield and when
- Theater-specific conditions

From Mission Based to Capabilities Based

CURRENT FORCE -- FIXED



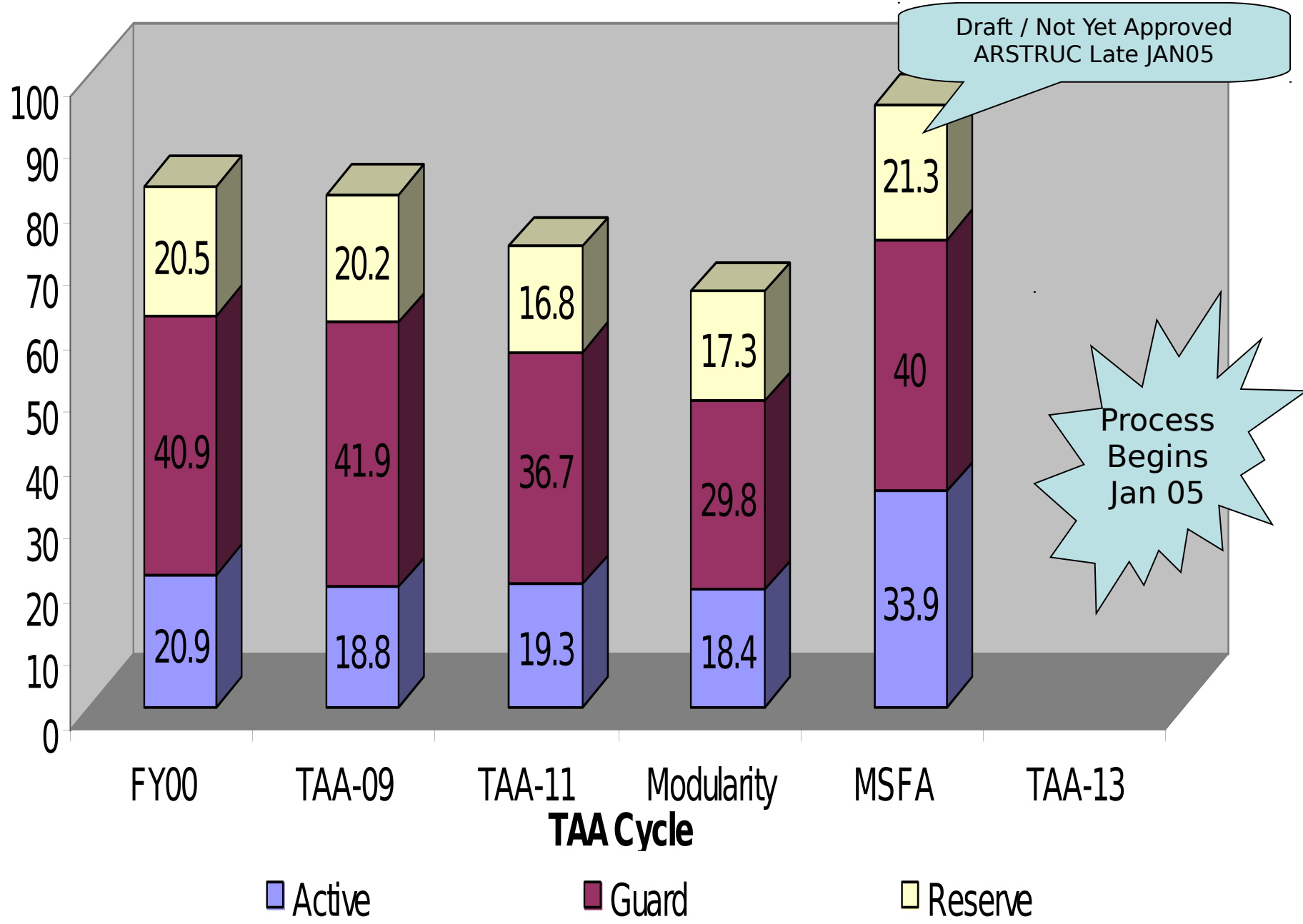
FUTURE FORCE -- TAILORABLE



Overview Current vs Future Engineer Force

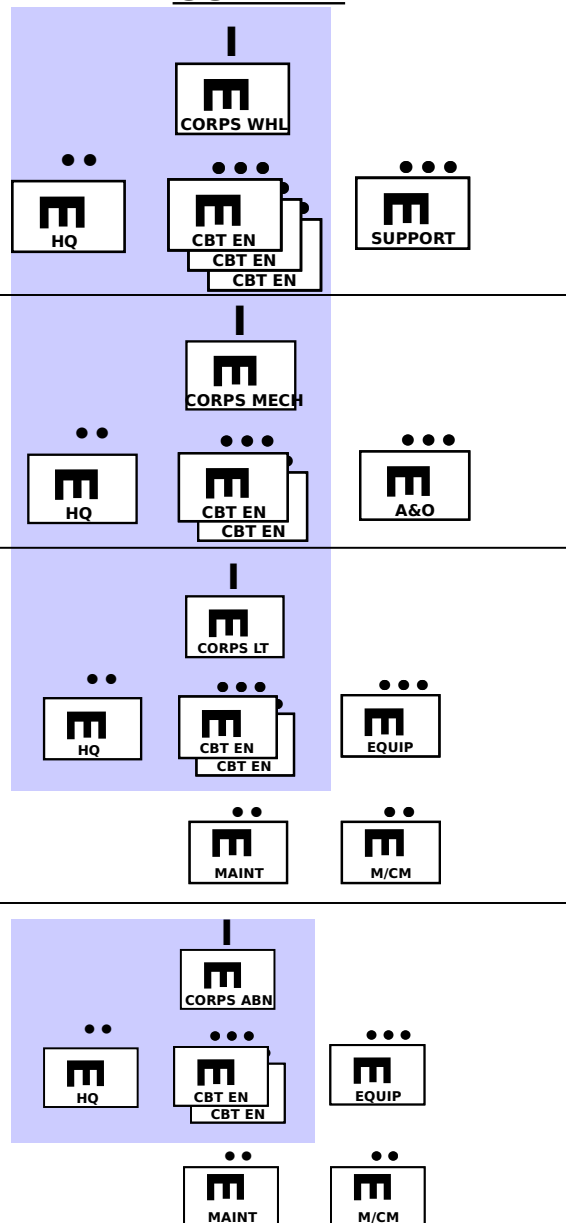
- Current Engineer Force has 98 SRCs – Future Engineer Force has 32
- 1 multi-functional Engineer Brigade HQs design versus 6 “stovepipe” Brigade / Groups in current force
- 1 multi-functional Battalion HQs design versus 9 “stovepipe” battalions in current force
- Modules and Companies are Capabilities Focused
 - Streamlines training and employment
 - Simplifies strategic planning – request discrete units with discrete capabilities
 - Captures migration of capabilities out of BCT engineer companies
 - Increases agility, strategic mobility, and focuses capabilities
 - Some growth in certain MOSs with equivalent reduction in others
- Within Current Resources, approximately:
 - 243 Companies (previously 243)
 - 60 Battalions (previously 67) + 82 BTBs
 - 10-15 Brigades (previously 21 “TAA11”)

Meeting the the Army's Changing Engineer Requirements



Sapper Company

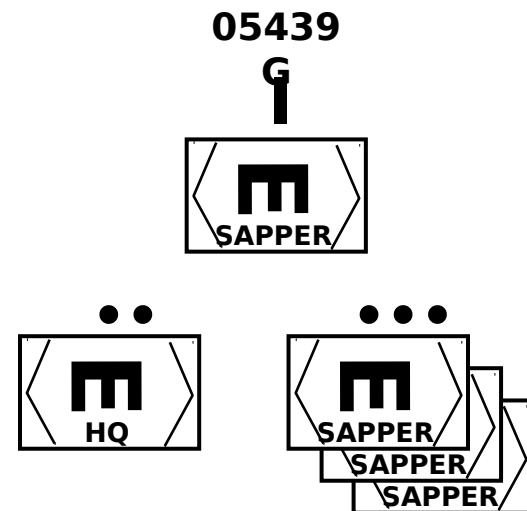
CURRENT



CONCEPT

- Sapper company provides mobility, countermobility, survivability tasks and provides support of general engineering missions for Maneuver and Support Bdes
- Provides Battle Command for 3-5 sapper, assault, obstacle, clearance, or tactical bridge platoons operating as an Engineer Team
- Provides 660 manhours/day for general construction labor tasks to vertical, horizontal, or BCT Engineer Support Companies
- Company supports clearance missions, Maneuver BCTs, Support Bdes, construction missions

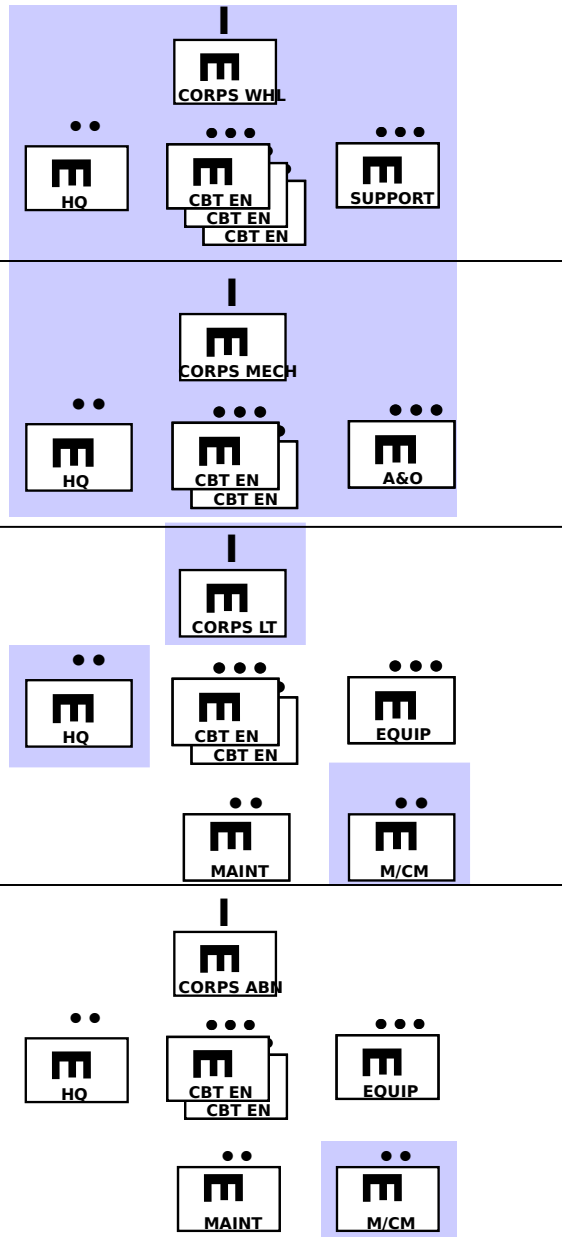
PROPOSED



 = Capability Migrated

Mobility Augmentation Company

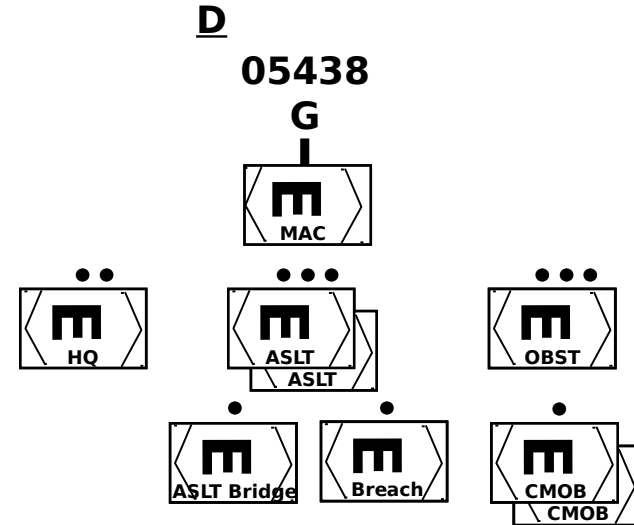
CURRENT



CONCEPT

- Mobility Augmentation Company conducts assault gap crossings, mounted and dismounted breaches, and emplaces obstacles in support of Maneuver and Support Bdes
- Provides Battle Command for 3-5 sapper, assault, or obstacle platoons operating as an Engineer Team
- Enables a Maneuver BCT to conduct 4 assault gap crossings; Enables an Infantry/Striker BCT to conduct 4 mounted breaches; Enables a Heavy BCT to conduct 2 mounted breaches; Enables a Maneuver BCT to conduct 4 additional dismounted breaches
- Can emplace 4432 linear meters of fix/disrupt tactical obstacle frontage without reload in support of Maneuver and Support Bdes
- Can employ 2 Breach Squads to execute hasty route clearance operations in support of Maneuver and Support Bdes
- Company supports Engineer Battle Position

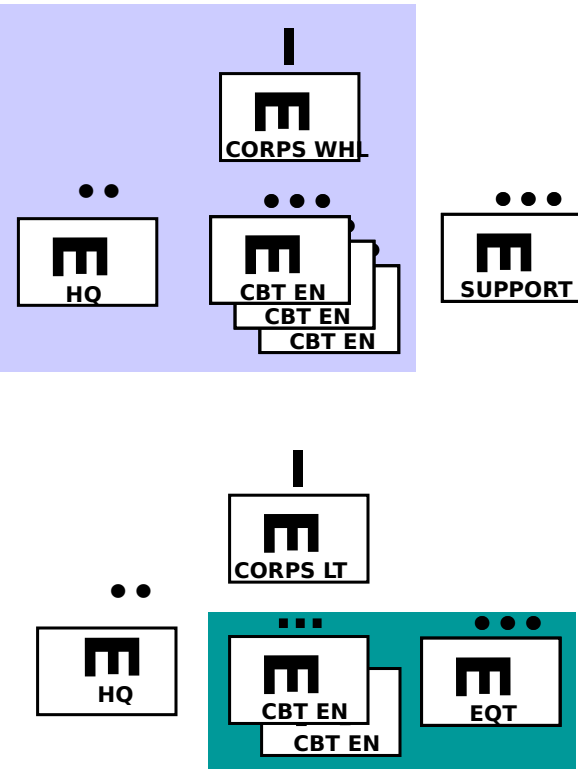
PROPOSED



 = Capability Migrated

Clearance Company

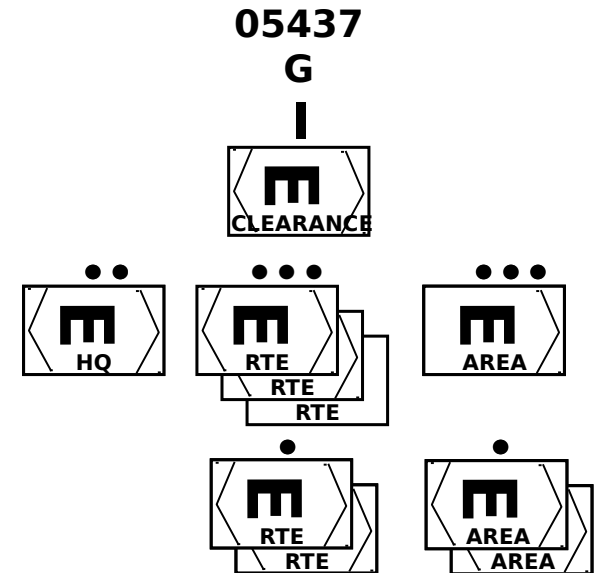
CURRENT T



CONCEPT

- Clearance Company conducts detection and neutralization of explosive hazards along routes and within areas in support of Support Bdes
- Provides Battle Command for 3-5 route, area, or sapper platoons operating as an Engineer Team
- Can clear a total of 255 km of two-way routes per day
- Can clear a total of 8093 m² per day
- Company supports UEx, Engineer Battalion, Support Bdes

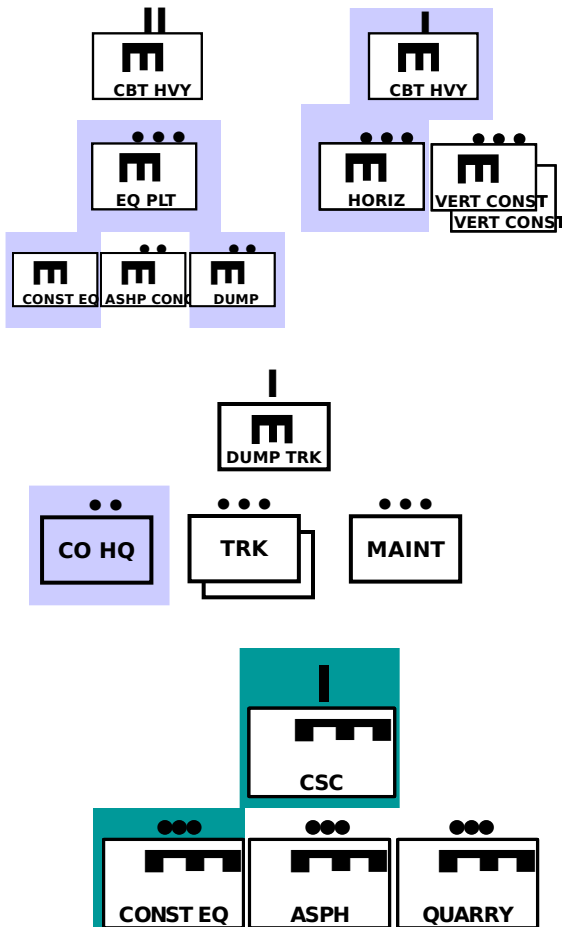
PROPOSE D



 = Capability Migrated

Horizontal Company

CURRENT



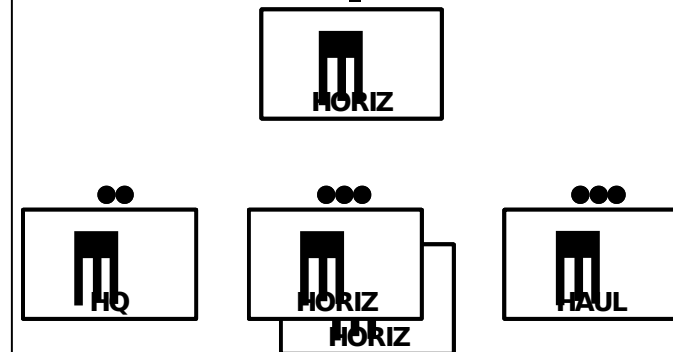
CONCEPT

- Executes general engineering missions to repair, maintain, and/or construct air/ground LOCs; repair and restore infrastructure, and enhance force and infrastructure protection in support of Maneuver BCTs, Support Bdes, or Engineer Bdes. Supports gap crossing operations
- Provides battle command for three to five platoons as an Engineer Team
- To Engineer Battalions as part of an Engineer Brigade supporting a UEy, Engineer Command, or a Maneuver Enhancement Brigade
- May be part of a mission team that may augment a Maneuver BCT in defensive operations

• Reorganizes Combat Heavy

PROPOSED

05417GO



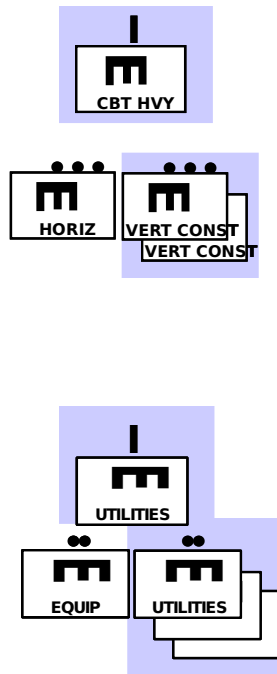
ROA

- 1.23 per horizontal construction workload in LR 2-4 (except for maintenance of low traffic areas in LR2; damage repair of low damage roads in LR2; and damage repair of baseline 0 troop housing in LR2)
 - 1 per HBCT during defensive operations
 - .42 per HBCT
 - .33 per strategic port
- = Capability Migrated**

Vertical Company

CURRENT

I

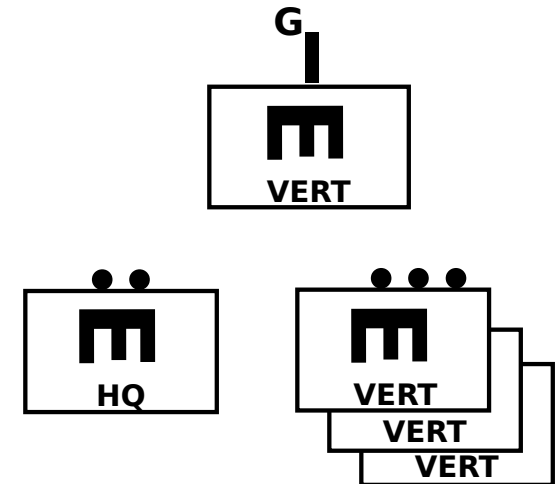


CONCEPT

- Executes general engineering missions to construct basecamps, internment facilities; construct, repair, maintain vertical infrastructures in support of Support Brigades or Engineer Brigades
- Provides battle command to three to five platoons as an Engineer Team
- To Engineer Battalions as part of an Engineer Brigade supporting a UEy, or a Maneuver Enhancement Brigade
- Maintains current level of vertical capability; combines utilities and vertical capabilities into one organization when combined with a RDE-M platoon

PROPOSE

D 05418



ROA

- .95 per vert construction workload (1000 MH per day) in LR 1-4
- .33 per strategic port (will be offset by the port maintenance task)



= Capability Migrated

U.S. Army Engineer School

Training Integration Office, Directorate of Training and Leader

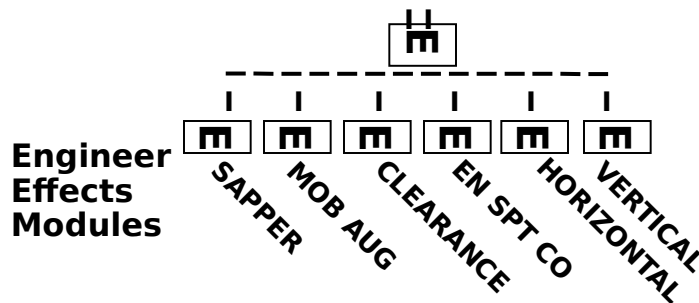
Development (DOTLD)

Analysis of the Future Engineer Force Training Model

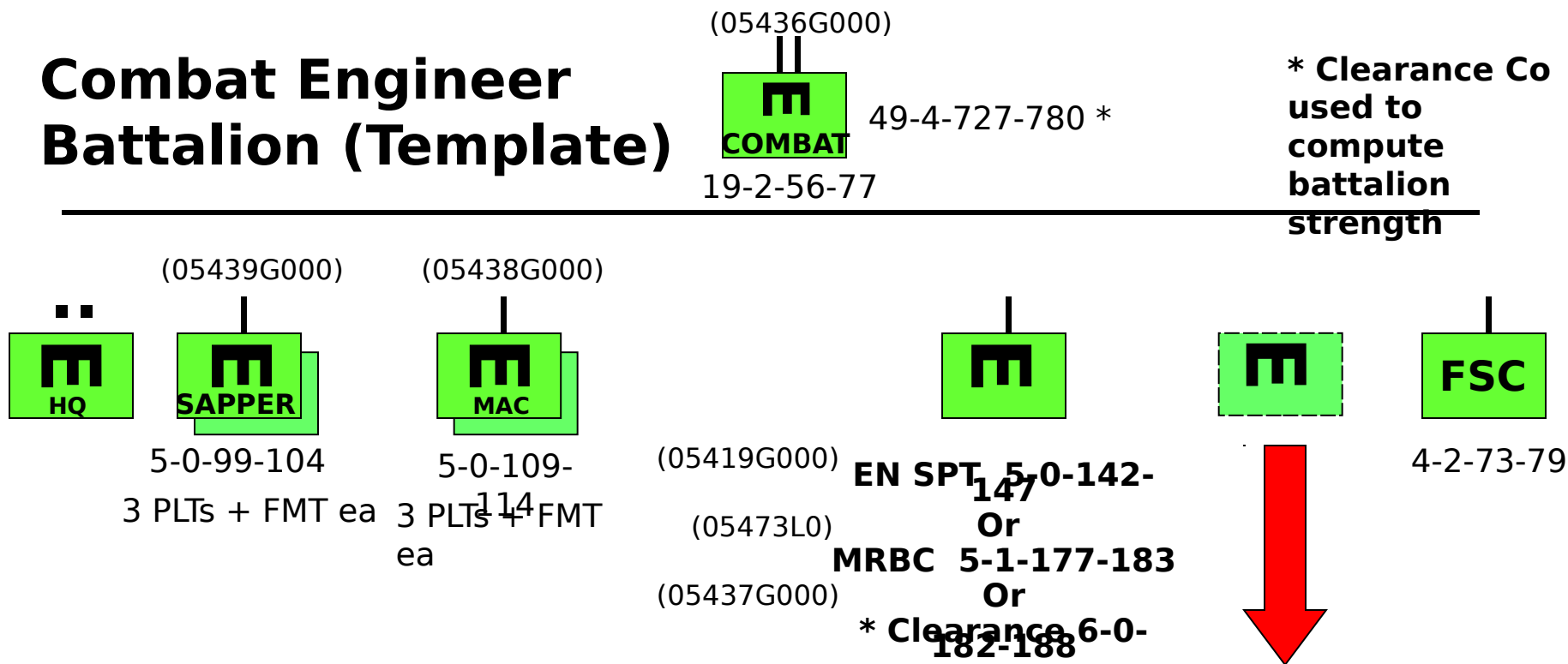
Engineer Expeditionary Package

Definition: **An Engineer Expeditionary Package is a mission tailored engineer force with the agility, skills, and tools to effectively and efficiently assure the mobility of the BCT during the course of an operation.**

Baseline Forces



Combat Engineer Battalion (Template)



Mission: Provide tactical and operational-level assured mobility in a UEx AO (LRs 1-2) to enable force application and focused logistics; typically assigned to a Maneuver Enhancement Brigade and may augment embedded engineer capability in Maneuver BCTs (LR 1).

ROA: Provide battle command to 3-5 engineer companies in LR 1-2 in support of a UEx.

Expl Hzd Det/Tm
(05601GH00/I00)

Mine Dog Tm (05550LB)

Light Dive Tm (05530LC)

Allocated to Combat Engineer Battalions based on future Army requirements and current stationing considerations

Construction Engineer Battalion (Template)

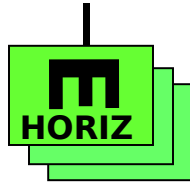
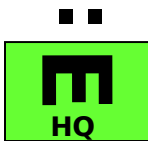
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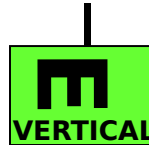
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3 PLTs + 1 FMT ea

(05418G000)



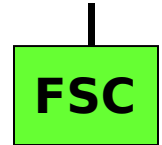
5-3-158-

3 PLTs + 1 FMT

(05402GL00)



0-1-13-14



4-2-73-79

Mission: Provide operational and theater level construction in a UEy AO or Joint Operational Area to enable focused logistics and enhance protection; typically assigned to a Maneuver Enhancement Brigade or Engineer Brigade.

ROA: Provide battle command to 3-5 engineer companies in LR 2 in support of a UEx or 3-7 engineer companies in LRs 3-4 in support of a UEy.

Haul Plt (05520GF00)
(05520GB00)

Quarry Plt (05520GC00)
(05530LA)

Asphalt Tm (05520GA00)
(05520LE)

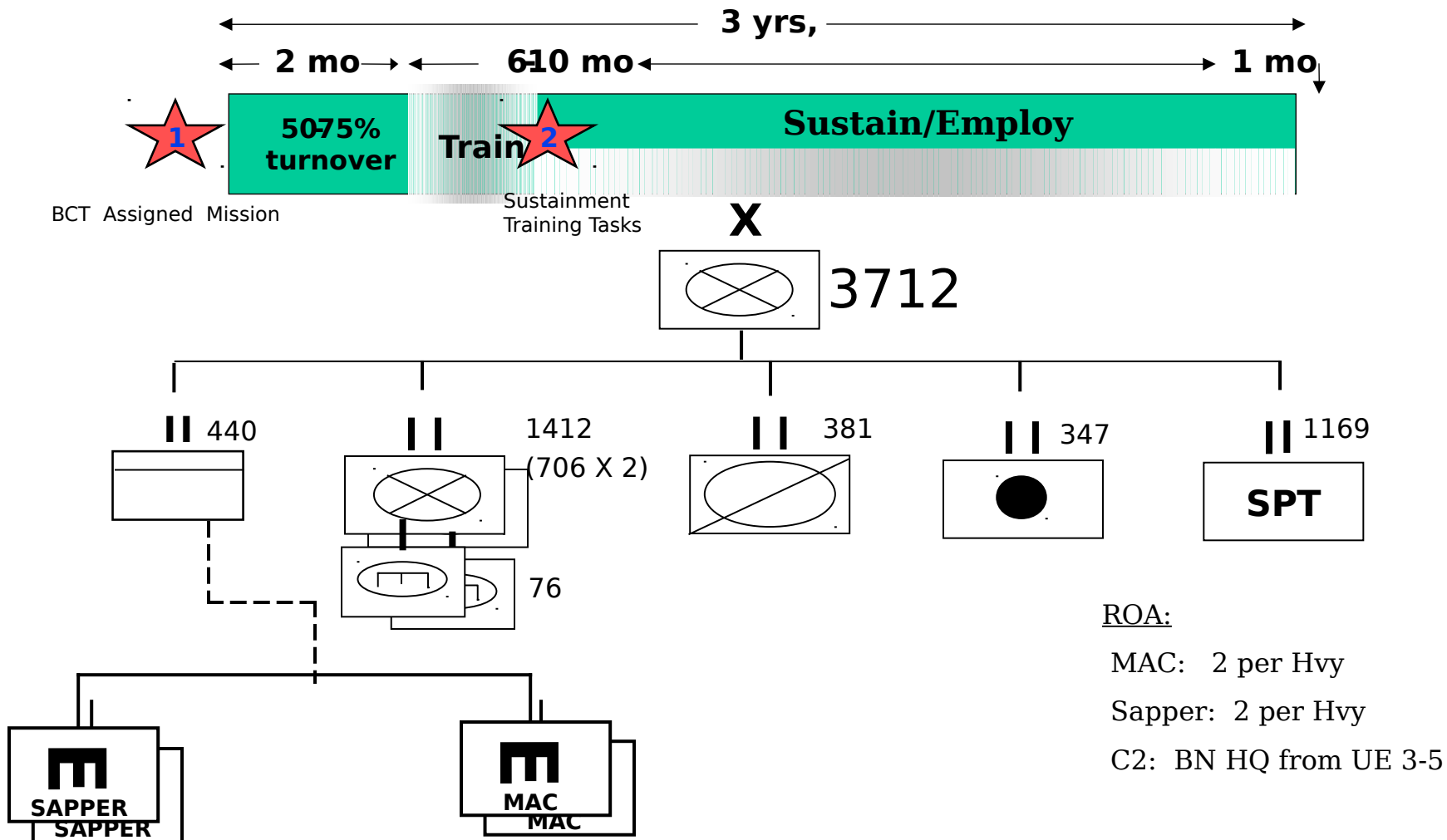
Concrete Tm

Heavy Dive Tm

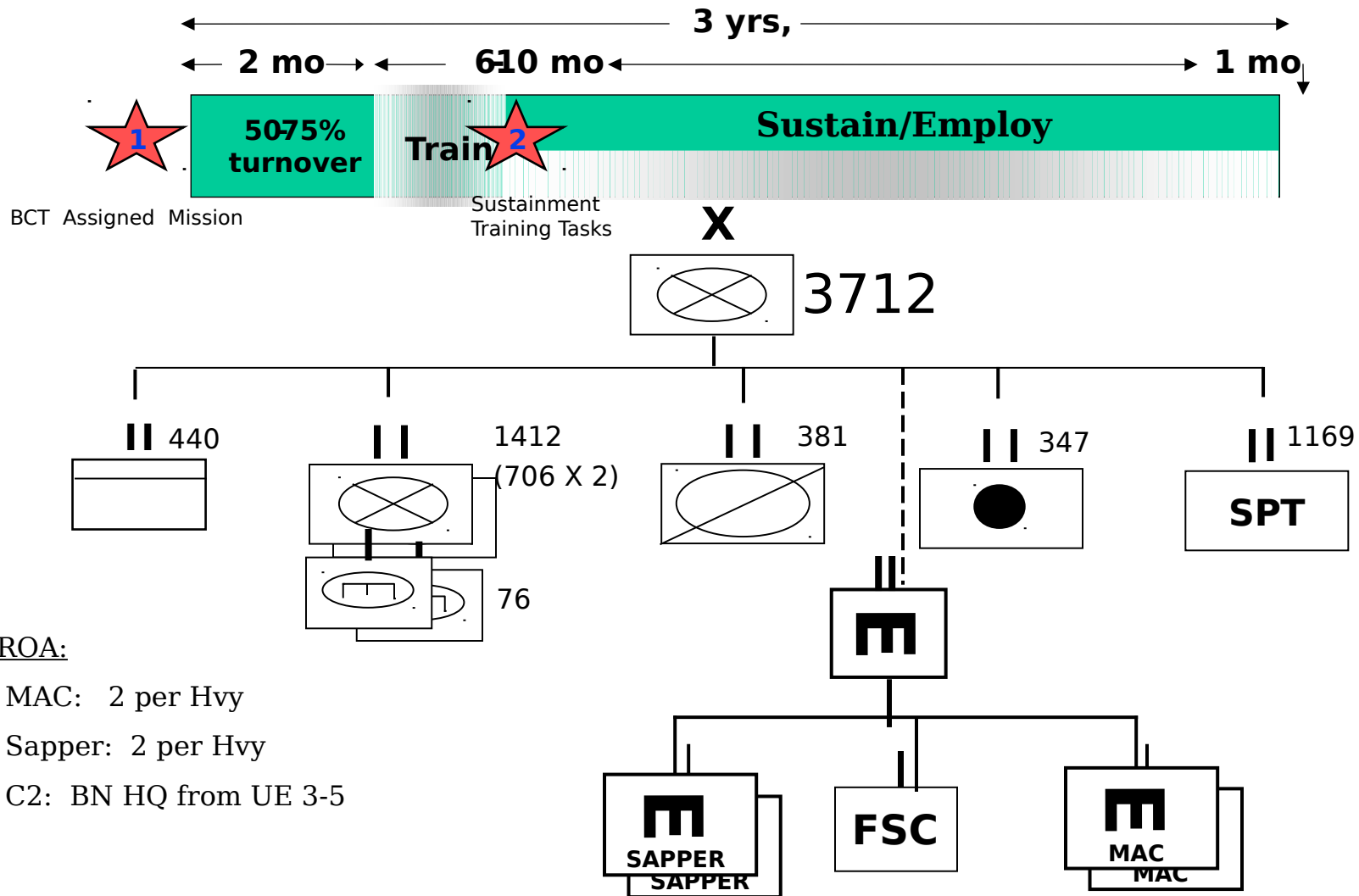
Well Drilling Tm

Allocated to Construction Engineer Battalions based on future Army requirements and current stationing considerations

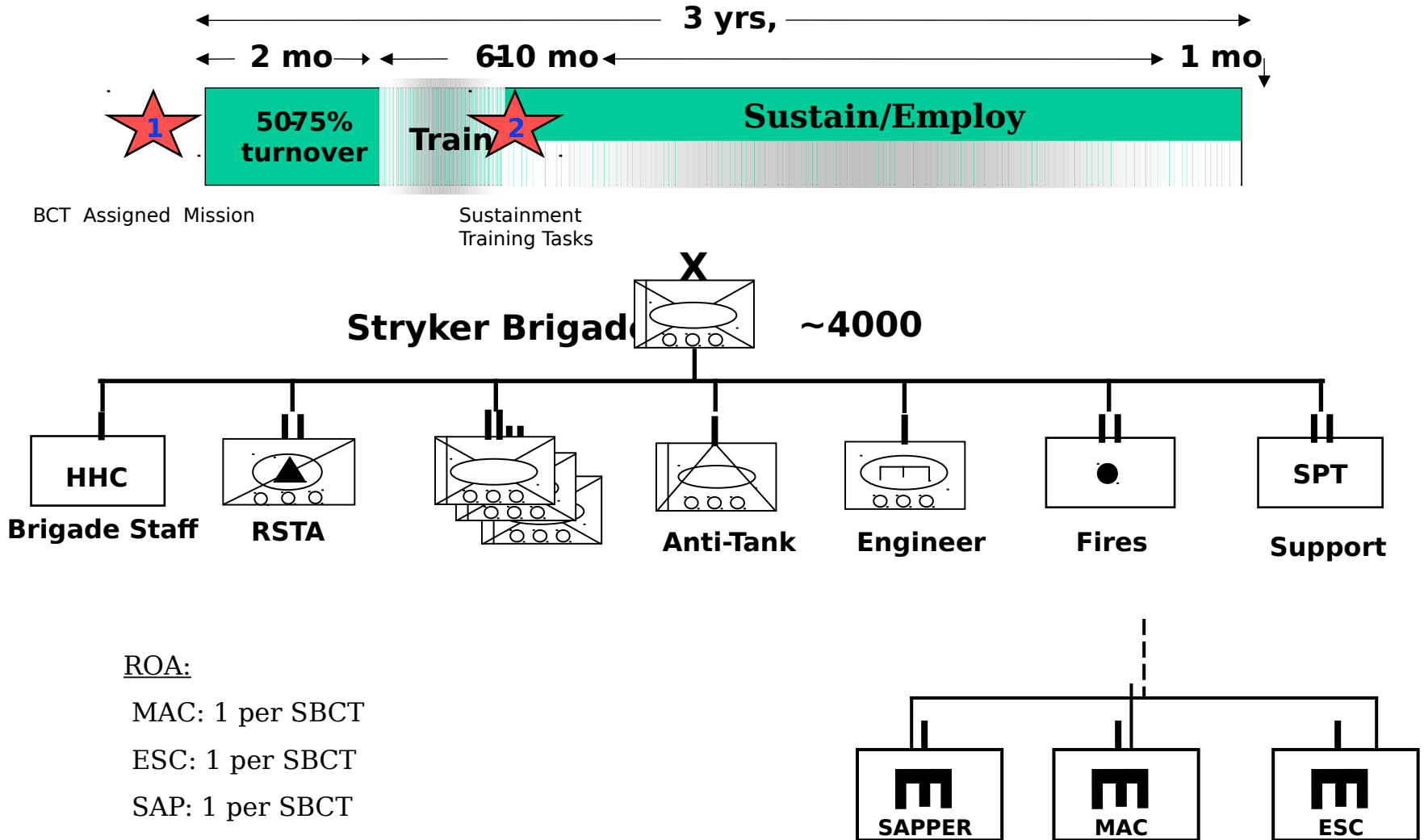
COA 1- Heavy Brigade Combat Tm



COA 2- Heavy Brigade Combat Team



COA 1- Stryker Brigade Combat Tm



ROA:

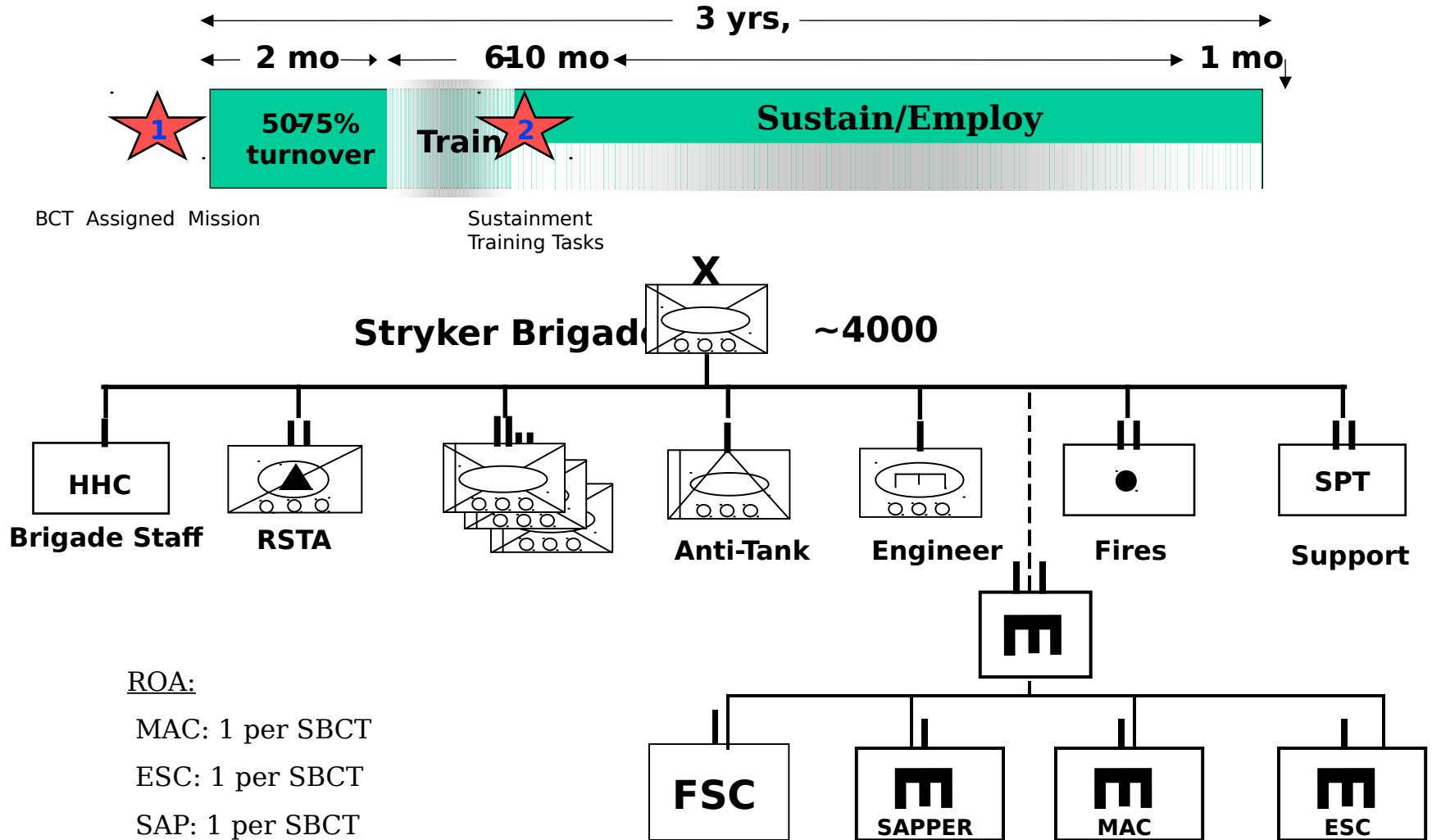
MAC: 1 per SBCT

ESC: 1 per SBCT

SAP: 1 per SBCT

C2: BN HQ from UE 3-

COA 2- Stryker Brigade Combat Tm



ROA:

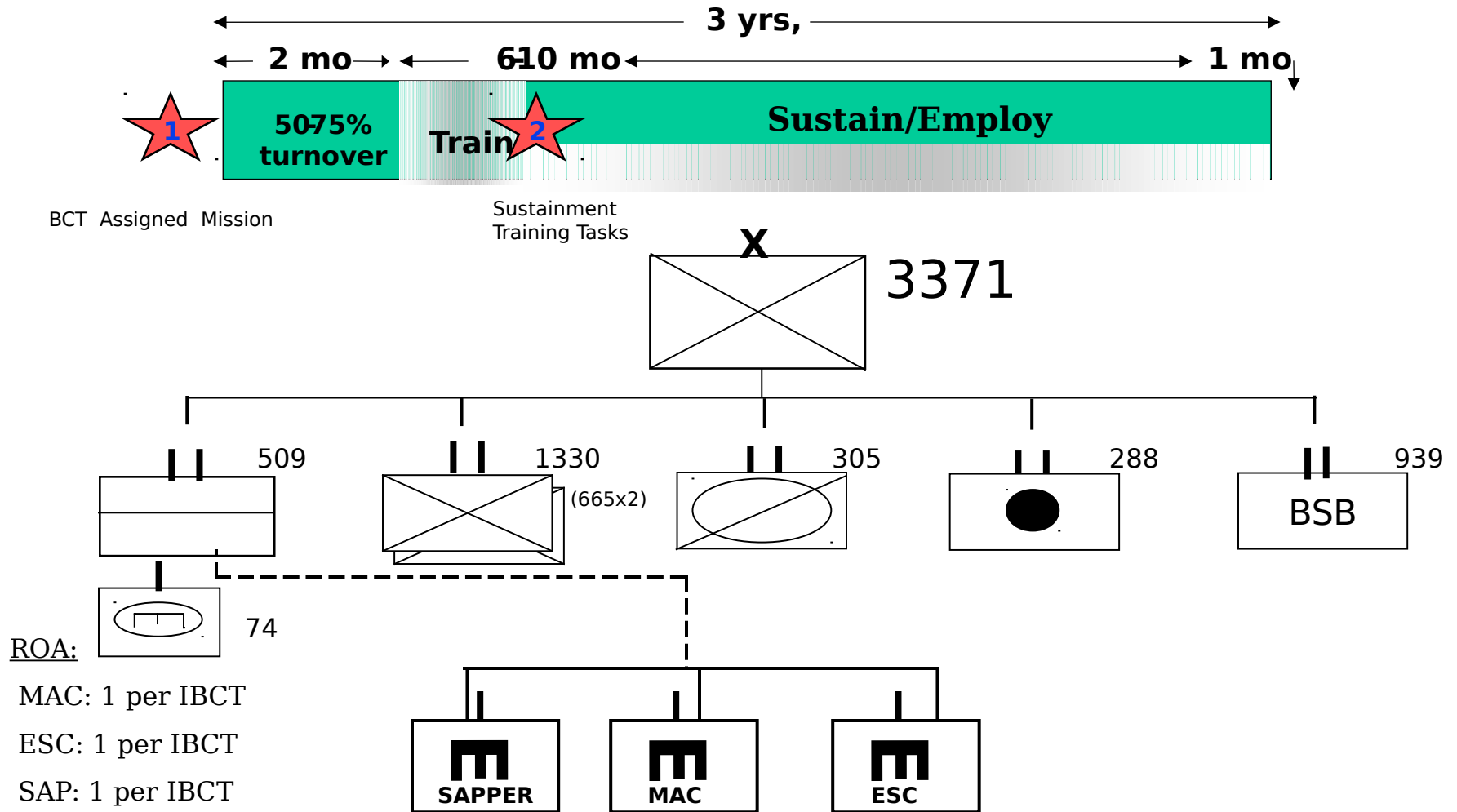
MAC: 1 per SBCT

ESC: 1 per SBCT

SAP: 1 per SBCT

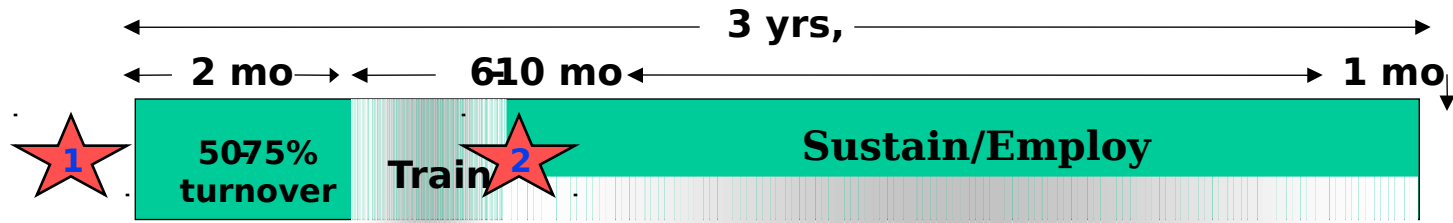
C2: BN HQ from UE 3-

COA 1- Infantry Brigade Combat Tm



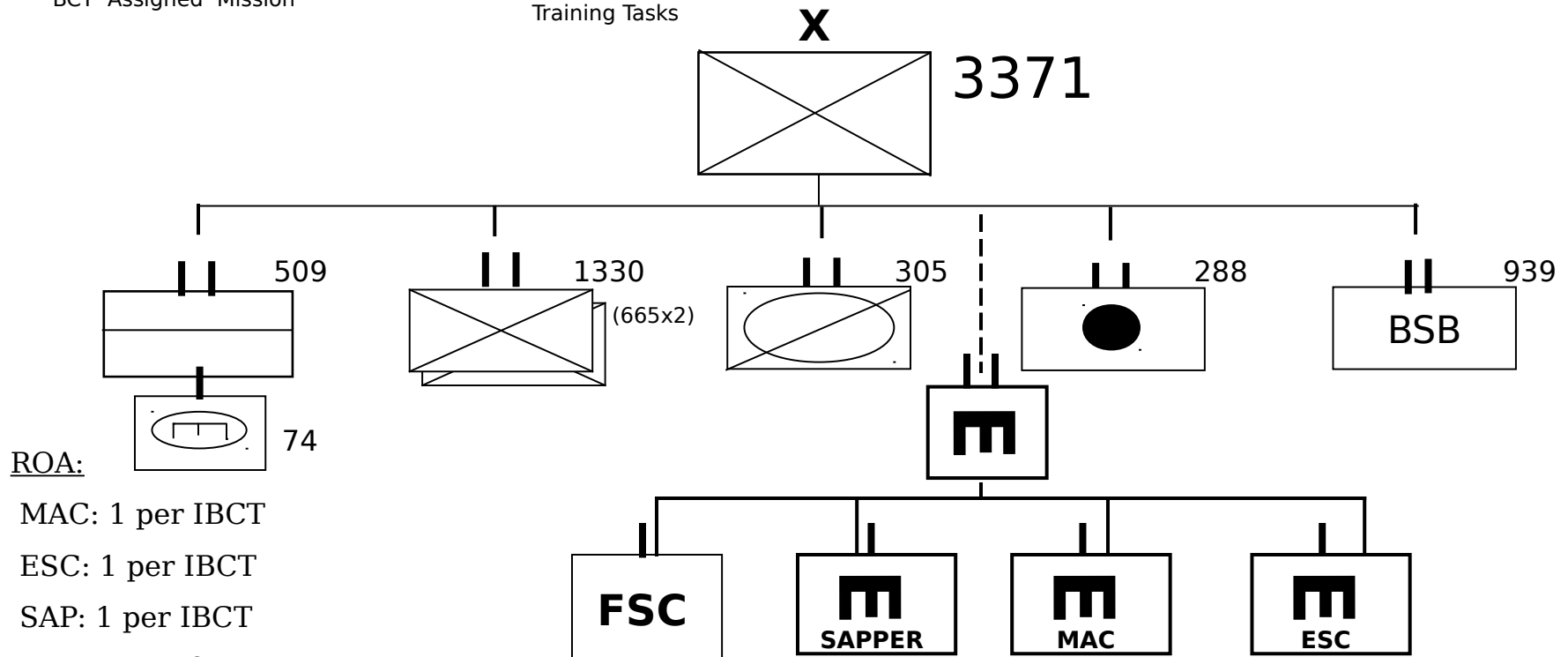
MAC: 1 per IBCT
 ESC: 1 per IBCT
 SAP: 1 per IBCT
 C2: BN HQ from UE 3-5

COA 2- Infantry Brigade Combat Tm



BCT Assigned Mission

Sustainment Training Tasks



ROA:

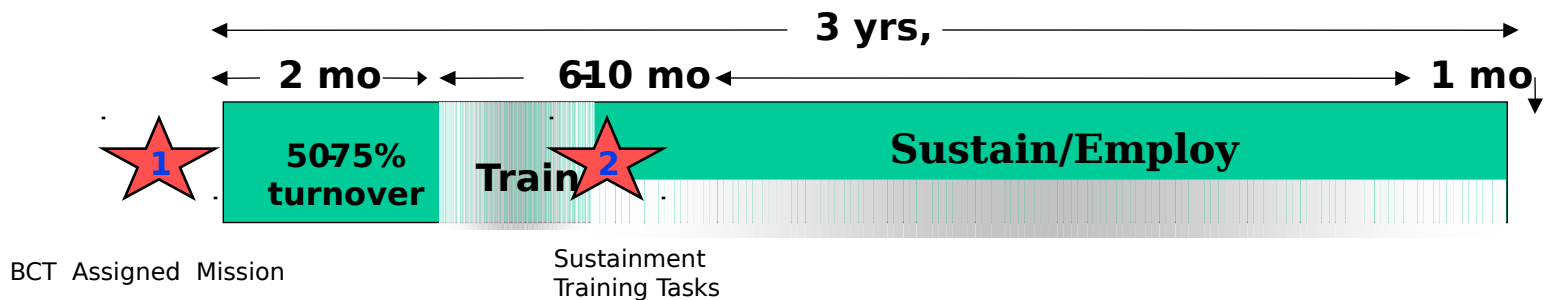
MAC: 1 per IBCT

ESC: 1 per IBCT

SAP: 1 per IBCT

C2: BN HQ from UE 3-

- **ISSUE: How is the Expeditionary Package Organized and Trained with the BCT?**
- **BACKGROUND AND DISCUSSION:**
 - DCD designed based on the ROA
 - HBCT Combat oriented receives 2 x Sapper and 2 x MAC
 - SBCT/IBCT Combat oriented receives 1 x Sapper; 1 x MAC; 1 x ESC
 - DP 1 Assigning of a mission based on 1 of 4 or combination of the 4 operations (offensive; defensive; stability; support)
 - DP 2 Sustain/Employ (Resources required to maintain)



- **ISSUE: What are the minimum Engineer Essential Capabilities required to support the BCT**
- **BACKGROUND AND DISCUSSION:**
 - **Engineer Essential Capabilities List (EECL) based on the Joint Engineer Capability Element**
 - **The task list has been cross walked with the AUTL and UJTL**
 - **The engineer effects modules capabilities cover the full spectrum of the JECE through numerous combinations of the effects modules**
 - **The JECE supports the full spectrum of operations**
 - **Expeditionary package developed for the first 72hrs of combat operations**

Joint Engineer Capability Elements

Deploy Engineer Forces

Plan and Control Engineer Forces

Detect and Neutralize Explosive Hazards

Provide Gap Crossing

Enhance Mobility In Complex and Urban Terrain

Attack Enemy Freedom of Maneuver

Generate, Distribute, and Analyze Geospatial Data

Mobility Assessments

Provide Deployable Earthmoving

Repair / Construct LOCs

Repair and Restore Infrastructure

Enable Theater Access

Enhance Force Protection

Enhance Infrastructure

Joint Engineer Capability Elements

	Horizontal Construction	Vertical Construction	Engineer Support	Mobility Augmentation	Sapper	SUPPORT	STABILITY	DEFENSE	OFFENSE
Deploy EN Forces									
Plan & Control EN Forces									
Detect & Neut Explosive Hazds									
Provide Gap Crossing					X		X		
Enh MOB in Complex & Urb Trn	X	X			X				
Attack Enemy Freedom of Maneuver			X	X	X				
Generate, Distr., & Anal Geo Data			X	X	X				
Mobility Assessments									
Provide Deployable EM			X	X	X				
Repair/Construct LOCs			X						
Repair & Restore Infrastructure	X	X	X						
Enable Theater Access	X	X							
Enhance Force Protection	X	X	X					X	
Enhance Infrastructure Protection	X	X	X		X			X	
BC & Contingency Fac Master Plan	X	X	X						

Offensive and Defensive Capability to the BCT (1 of 4)

Offense/Defense

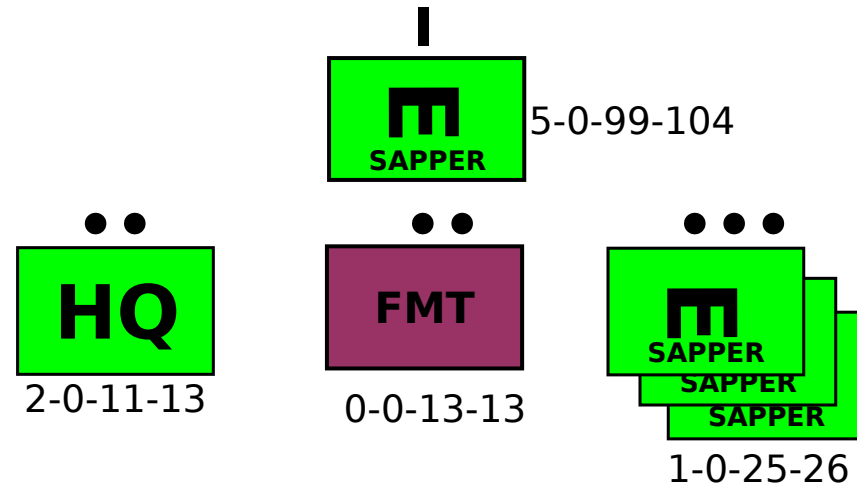
JECE:

Detect and Neutralize Explosive Hazards
Mobility Assessments
Attack Enemy Freedom of Maneuver
Enhance Mobility in Complex & Urban Terrain
Enhance Force Protection

ENGINEER ESSENTIAL CAPABILITIES LIST:

Plan/direct/perform EN recon.
Report obstacle information.
Execute hasty route clearance (level 1 and 2).
Neutralize explosive hazards (BMD).
Execute demolition targets.
Conduct level 1 survivability operations.
Prepare obstacle plan.
Plan and control tactical and situational obstacles.
Emplace tactical and situational obstacles.
Construct protective obstacles.
With augmentation:
Conduct mounted/ dismounted/urban breach.
Create a lane through an obstacle by manual tech.
Create a lane through an obstacle by explosive techniques.

Sapper



1 - 21B 03- Co Cdr
1 - 21B 02- Co Opns Off
1 - 21Z5 - 1SG
1 - 21B4 2S - Opns Sgt
1 - 21H3 - Const Foreman
1 - 92Y3 - Sup SGT
1 - 74D2 - NBC NCO
1 - 25U2 - Fwd Sig Spt NCO
1 - 21B1 - SPC Cbt Eng
1 - 92Y1 - SPC Armorer
1 - 21B1 - PFC Trk Veh Driver
1 - 25U1 - PFC Sig Spt Sys Spc
1 - 92Y1 - PFC Sup Clerk

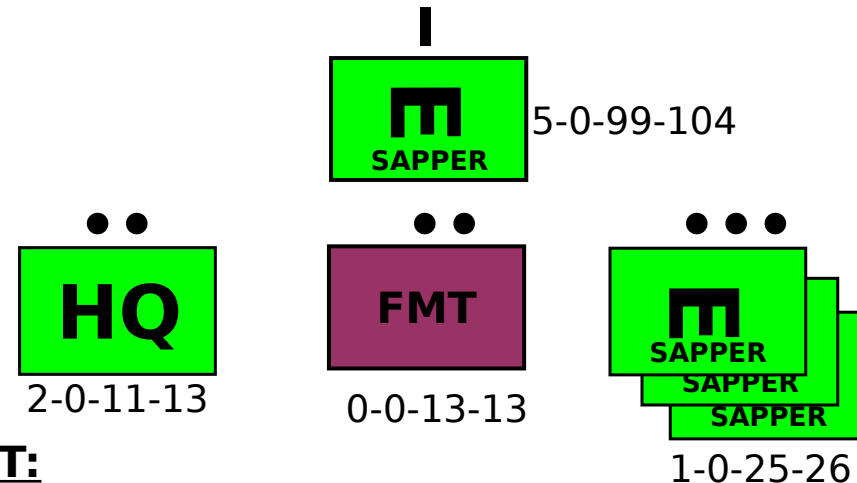
Stability/Support Capability to the UEx (1 of 6)

Stability/Support

JECE:

Detect and Neutralize Explosive Hazards
Mobility Assessments
Enable Theater Access
Enhance Force Protection

Sapper



ENGINEER ESSENTIAL CAPABILITIES LIST:

Plan/direct/perform EN recon.
Execute hasty route clearance.
Conduct minesweeping operations.
Detect/mark/report explosive hazards (BMD).
Conduct level 1 survivability operations.
Construct protective obstacles.

With augmentation:

Execute deliberate route clearance.
Conduct level 2-4 survivability operations.

1 - 21B 03- Co Cdr
1 - 21B 02- Co Opns Off
1 - 21Z5 - 1SG
1 - 21B4 2S - Opns Sgt
1 - 21H3 - Const Foreman
1 - 92Y3 - Sup SGT
1 - 74D2 - NBC NCO
1 - 25U2 - Fwd Sig Spt NCO
1 - 21B1 - SPC Cbt Eng
1 - 92Y1 - SPC Armorer
1 - 21B1 - PFC Trk Veh Driver
1 - 25U1 - PFC Sig Spt Sys Spc
1 - 92Y1 - PFC Sup Clerk

Additional Army Modularity Information

- Additional Modularity information can be downloaded from the TF Modularity FTP site:

<https://tradocfs.monroe.army.mil/tfmdocs/>

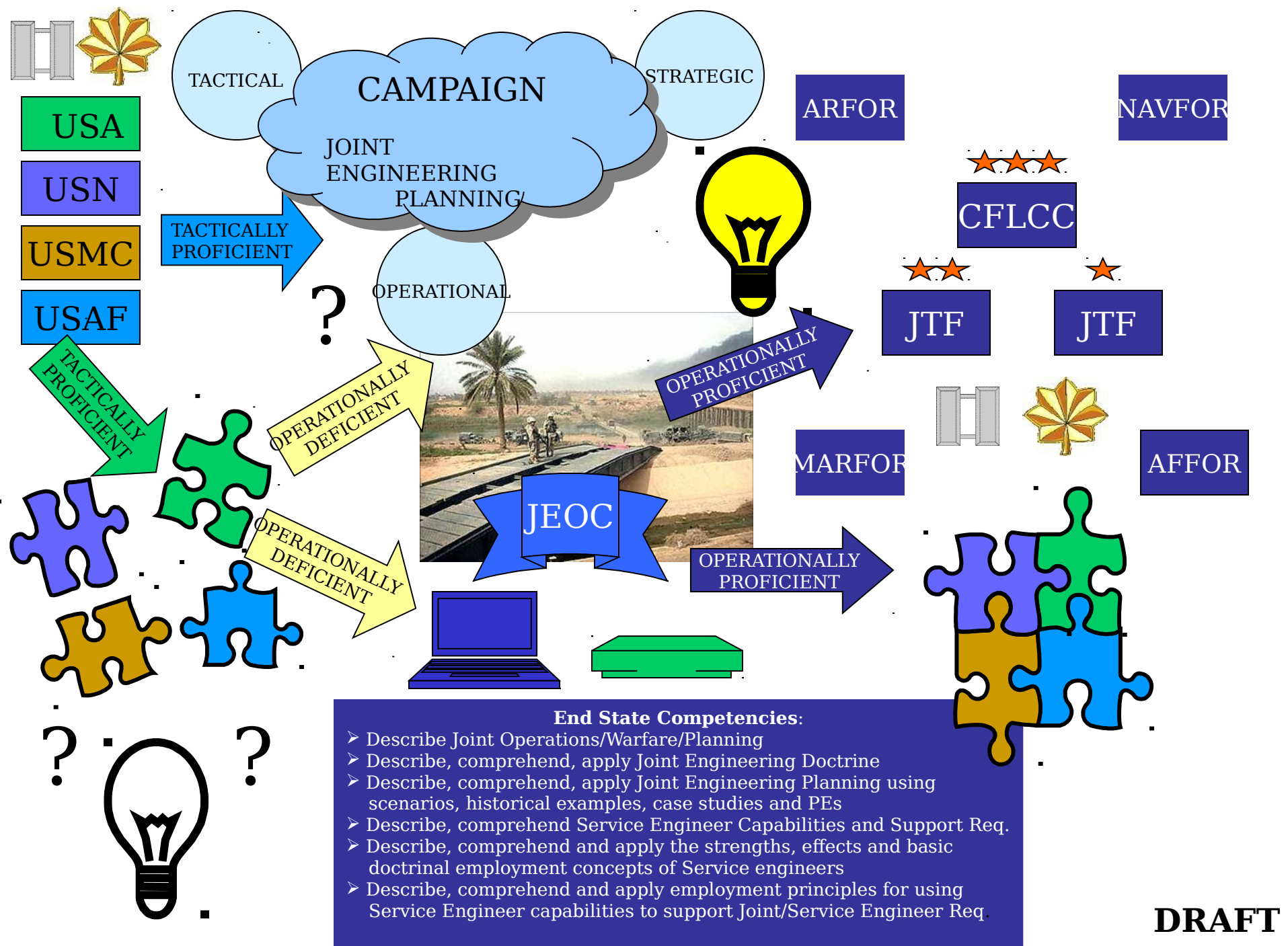
- The FTP site includes:
 - Briefings
 - Draft O&Os
 - Other Information

Concept

Joint Engineer Officer Course (JEOC)

*“Bridging the Knowledge
Gap”*





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JEOC Concept

- **Objective:**

- Understand and be able to integrate engineer capabilities across the spectrum of operations to ensure support of the Joint Force Commanders Engineer requirements and accomplishment of the Joint mission.

- **End State Competencies:**

- Describe Joint Operations, Joint Warfare and the Joint planning System.
- Describe, comprehend, apply Joint Engineer Doctrine.
- Describe, comprehend, apply Joint Engineer Planning using scenarios, Historical examples, case studies, practical exercises.
- Describe, comprehend Service Engineer Capabilities and Support Requirements.
- Describe, comprehend and apply the strengths, effects, and basic doctrinal employment concepts of Service Engineers.
- Describe, comprehend, apply employment principles for using Service Engineer capabilities to support Joint and Service Engineer requirements.

- **Target Audience:**

- Senior Company Grade and Junior Field Grade Engineer Officers of all Services

- **Length:**

- +/- 40 Hour non resident Preparatory Phase + 14 day/80 Hour - Resident Course

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JEOC Concept

- Preparatory Phase

- Non resident +/- 40 hours
- Intro to Joint Ops/Planning
- Intro to Joint Doctrine
- Intro to Joint Engineer Ops
- Intro to Sister Service Capabilities
- Early ID of students @ Service CGSC
- Branch Mgr involvement
- Assignment Oriented Trng
- *"Planners Tool Kit"* CD

- Resident Phase

- 10-14 Days +/- 80 hours
- Existing Eng/Joint Facility
- Classroom/SGL Instruction
- SGI/SGL w/ JTF Expertise
- VTC Suite
- Collaborative Planning
- Review non resident materials
- Guest Speaker Program
- Planning Exercises
- CAPSTONE Exercise

DRAFT JEOC COURSE CALENDAR

“RESIDENT PHASE”

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
ARRIVAL HOUSING SECURED	INPROCESSING INTRODUCTION PHASE INTRO TO JOINT OPS & WARFARE HISTORY OF JOINT OPERATIONS THREAT ANALYSIS - Guest Lecture JOINT CONCEPTS REVIEW HOMELAND SECURITY BRIEF -Guest Lecture	PLANNING PHASE THE JOINT PLANNING SYSTEM INTRO TO JOINT SERVICE CAPABILITIES APPLICATION OF JOINT SERVICE ENGINEER CAPABILITIES -Guest Lecture INTRO TO JOINT ENGINEER DOCTRINE & RESOURCES	INTRO TO PLANNING PRACTICAL EXERCISES APPLIED PLANNING I PRACTICAL EXERCISES	APPLIED PLANNING II PREPARATION PHASE INTRO TO THE CAPSTONE EXERCISE OPORD DISTRO & BATTLE PREP	Joint Task Force Command and Staff Operations - Guest Lecture PRACTICAL EXERCISES: APPLYING PLANNING AND COORDINATION TECHNIQUES FOR JOINT ENGINEER SUPPORT TO JOINT TASK FORCE SCENARIOS CAPSTONE EXERCISE CASE STUDIES DISTRIBUTION	NO CLASS CASE STUDIES REVIEW AND PREPARATION
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
DAY 8	DAY 9	DAY 10	DAY 11	DAY 12	DAY 13	DAY 14
NO CLASS CASE STUDIES REVIEW AND PREPARATION	PREPARATION PHASE (CRAWL) BASIC SIMULATION EXERCISE FIRST SMALL JOINT EXERCISE (WALK) COE JOINT EXERCISES	EXECUTION PHASE APPLYING JOINT ENGINEER CAPABILITIES INTO FULL SPECTRUM JOINT OPERATIONS CAPSTONE EXERCISE PREPARATION	CAPSTONE EXERCISE SACK LUNCH INFORMAL AAR	CAPSTONE EXERCISE SACK LUNCH ENDEX CLEAN-UP	CONCLUSION PHASE FORMAL AAR GRADUATION OUT PROCESSING STUDENT DEPARTURES	FINAL STUDENT DEPARTURES

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JEOC Concept

Milestones

- **FY05**
 - Continue research into the JEOC course structure and content
 - Continue coordination efforts to align the JEOC with the JFC's requirements
 - Continue to incorporate the input and requirements from all the Services into the JEOC development process
 - Provide the JOEB with a DRAFT concept for staffing and feedback
 - Continue to refine the budget requirements for the JEOC implementation
 - Submit funding requests
- **FY06**
 - Establish the JEOC Management Cell
 - Identify the Instructional Designer and Courseware Developer
 - Complete Program of Instruction (POI) Development and Courseware Design
 - Staff the POI and courseware through JFCOM and the Services
 - Determine the method of instruction and identify the JEOC Instructors
 - Conduct Instructor Needs/Cost Analysis
 - Begin lesson planning and course setup
 - Identify the JEOC location and begin facility preparation
 - Submit funding requests
 - Execute the Pilot Program (COA 1)
- **FY07**
 - Execute the Pilot Program (COA 2)
 - Submit funding requests

The Problem

Issue: Today's construct for operations in explosive hazard (EH) contaminated theaters fails to provide maneuver commanders the freedom of action to accomplish missions effectively in the current operating environment.

Engineer Company Commander and soldiers killed clearing cluster bomb units from airfield.

Desert

Storm

**8 Soldiers killed clearing CEA
Afghanistan Jan 2004**

"There is a gap between the U.S. sapper's training on breaching only (or reducing an obstacle, if practical) compared to the highly technical but administrative approach of EOD units. A meeting in the middle is required."

"The artificial separation between EOD and Cbt Engrs will deal with UXO whether we want them to or not - just a matter of inadequate EOD troops to the UXO task. This is a structural deficiency that it is imperative for us to fix."

Bde Cdr, 3rd Infantry

Division, Iraq

OIF Maneuver/ENGR Lessons Learned

- Capability gap to protect the force from explosive hazards
- OIF Initial planning focus was on WMD, not CEA/IEDs/UXOs
- Limited EOD assets initially allocated, ENGR required to conduct more explosive hazard operations
 - Allocated follow on resources late in TPFDL
- Limited capability of ENGR to deal with explosive hazards
 - Untrained engineers can not positively identify UXO without training; therefore, casualties occur during missions

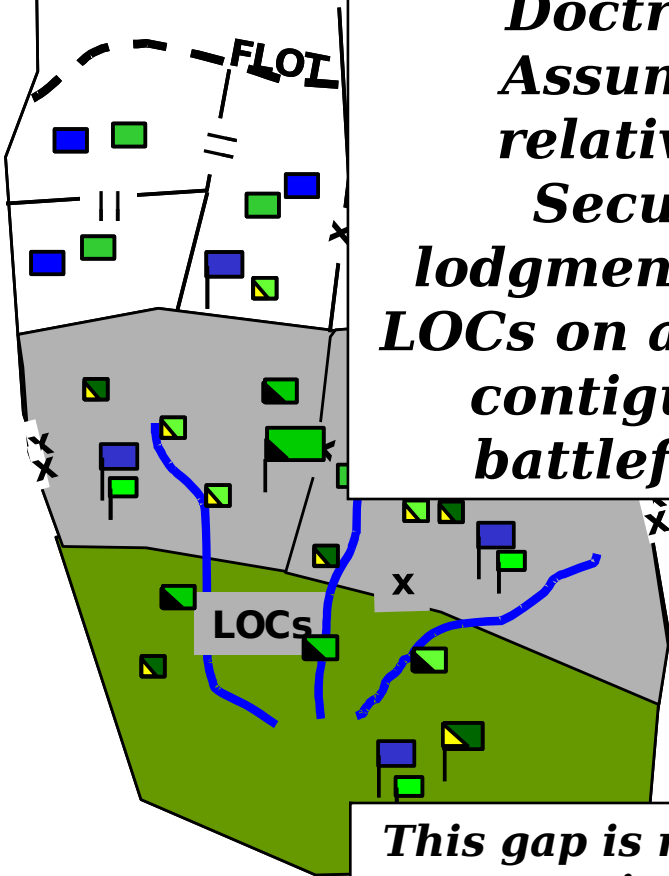
**EOD integrated with forces forward works
- saves lives - it's how the field does it when
they can.**

The Gap

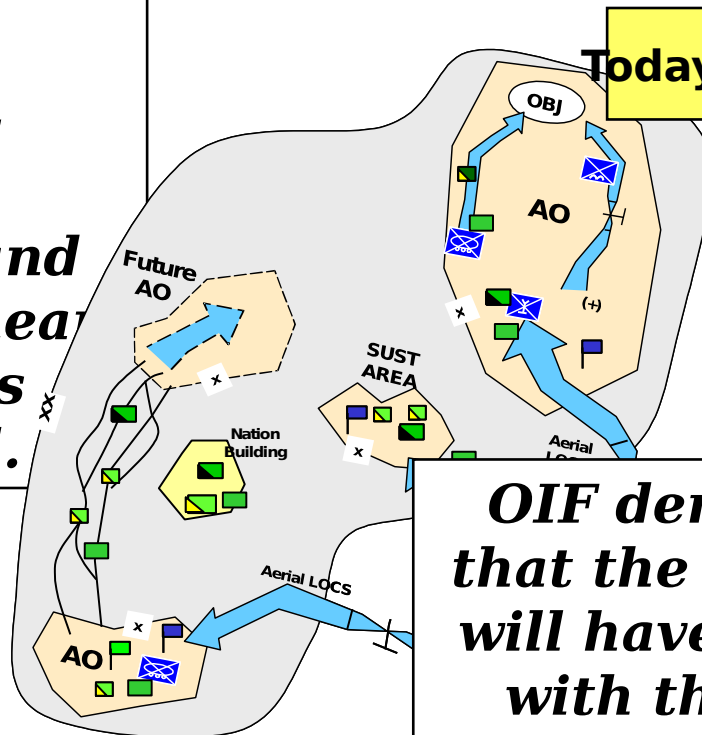
*Are we fighting the last war,
today's war or tomorrow's war?*

In the Past

*The Cold War
Doctrine
Assumed
relatively
Secure
lodgments and
LOCs on a linear
contiguous
battlefield.*



Today and Tomorrow



*This gap is not a new challenge,
we saw it to some degree in
DS/DS, Somalia, Haiti, Bosnia,*

*OIF demonstrated
that the future force
will have to contend
with threats on a
non-linear, non-
contiguous
battlefield with
relatively unsecure*

INTERPRETATION OF THE GAP

UXO

Clearance Operations

Humanitarian De-mining

Search Operations

Booby Traps, IED, Explosive Hazards)

Mine/UXO Awareness Training

Sensitive Site Exploitation (SSE)

C2 / Synch / Coord

Captured Arms and Equipment (CAE)

SAPPERS

Breaching

EOD

RSP

CBRNE

IEDD



Analogous Architecture

Combat Lifesaver Medic PA Doctor Surgeon



WARFIGHTER

R

**ID & React
to UXO
React to IED**

EORA

**Initial ID
Evacuate
Protect &
Report**

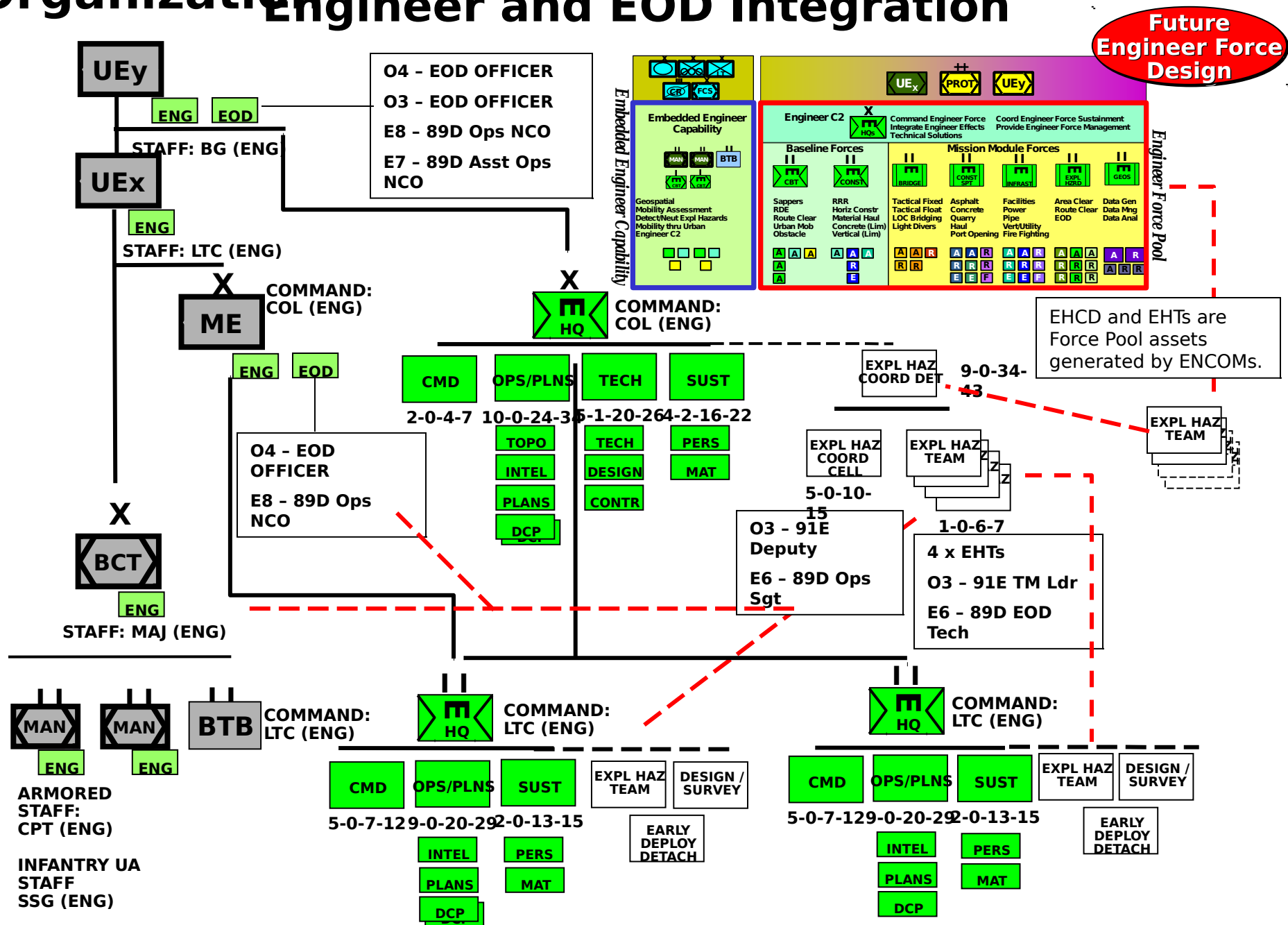
EOCA

**Positive ID
Evac and
Prot
Destroy
within
Limitations**

EOD

**Positive ID
Force Prot
Render Safe
Pr
CBRNE**

• Organization Engineer and EOD Integration



Questions

